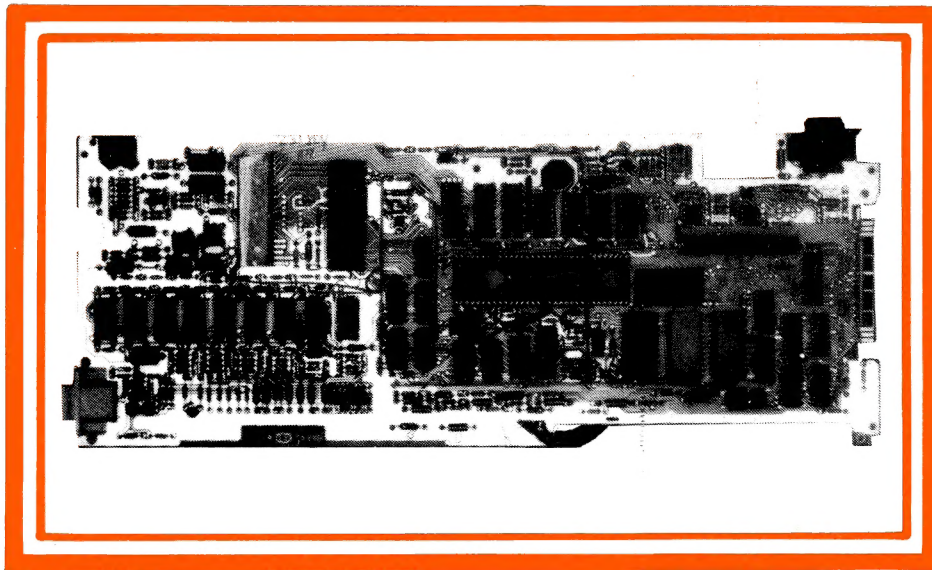


AUSTRALIA'S MAGAZINE FOR TEXAS INSTRUMENTS 99/4A HOME COMPUTER

May 1984 Vol. 1 No. 3

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- ★ Mail Labels
- ★ Brother EP-44 Printer
- ★ Modems
- ★ Disk Drives for the TI-99/4A

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Editorial



We are Late!!! This has been caused by a number of circumstances, sometimes under our control, other times not. Rather than try to rush an issue out to make dead lines we would sooner bring out as good an issue as we could.

It is quite apparent from some of the phone calls we receive that some people believe that this is our full time occupation. Just to set the record straight this does not pay our bills and is an after hours activity only. Some people have become rather frustrated trying to telephone myself during the day, and whilst my wife does not work, she spends a great deal of time out during the day.

Starting with this issue we will begin "exposing" those behind SOFTEX so that you may gain a fuller appreciation of our operation. At times due to the telephone traffic at night you may find it almost impossible to get through, but don't give up hope, keep on trying.

Our main aim is to try and spread information and knowledge on how to use your TI-99/4A for some practical uses, so that YOUR computer does not join the many thousands world wide gathering dust on shelves.

It has been gratifying to receive comments and letters on the content of the magazine, but we still have not completely come to grips with certain areas that readers want information on. One of the most popular requests has been for practical hardware projects, but until we find some one able to write and supply this information we are unable to satisfy these requests.

You will notice that we have changed printers and upgraded the quality of the magazine again. As our circulation increases we intend to try and improve our product, but with little financial support from advertisers our resources are basically limited to sales. In this area, if you know of any new potential subscribers please make them aware of our magazine. With fewer resources now available for information on the TI-99/4A, particularly in Australia we believe there is a need for a magazine devoted to this computer. As news comes to hand this will be passed on to you.

Another area we wish to enlarge on is the review of software, hardware, books, etc. that are available both locally and overseas, so we would be pleased if you have anything of interest to send this to us for review, on the understanding that this will be returned on completion of the review.

The first signs of shortages are beginning to show up now on software, with LOGO II and possibly TI-WRITER being un-available for purchase. We at SOFTEX are interested in purchasing any second hand equipment that we come to hear of. If you wish to sell some or all your equipment later on, please let us know. To date most equipment that has been advertised at a "reasonable" rate has sold quickly.

With our retailing, we normally do not carry stock of Printers, Disk Drives and other major components, but can obtain supply of these within 1/2 days if available. Occasionally we are held up waiting for supplies, as has occurred with the Amust DT-80 Printers due to the demand exceeding supplies. Rest assured if at all possible, goods will be dispatched by return mail on receipt of your cheque.

To further assist readers in this area we are applying for Bankcard for mail order sales, which should give you a better and faster service.

SOFTEX Personalities

SOFTEX PERSONALITIES

Who or what is SOFTEX?? This is the first part of an expose' of SOFTEX, beginning with two of the Directors, Doug and Mary Thomas.



Mary Thomas

I have been told to write a short resume on myself. How do I start, "once upon a time?" or what.

My name is Mary Thomas and I'm married to Doug. I am one of the 4 hard working people (Directors) involved in Softex. The voice on the phone who tries not to answer by saying "this is the Mad-house, may I help you".

As part of Softex I do the proof-reading, (I hope no spelling errors slip through), which means a lot of reading. I am not a computer "nut" as everyone else is. This is an advantage in that if I can understand an article and what they are getting at, this means other will also. I also help in the background of Softex and also do a little stiring (coffee too).

Away from Softex I am a very busy person. I am Director of Home Affairs at our house (but rarely home). My time is taken up with helping at our daughters schools, and involvement in the community. I hold an endorsed licence to drive an 18 seat bus, on which I am a rostered driver to transport the Elderly to a day care centre. Different meetings take time, and as well I play Badminton 2 days per week.

We have (we think) two lovely daughters, blonde, and blue-eyed, Cindy 13½ years is in her second year at High School, Jodie (soon I'm told to be 11 years) in 5th. grade. Both girls are involved in after school physical activities and music.

At times this household is mad, especially at meal times when the phone rings non-stop.

Life keeps us all busy, I guess we would complain if there was nothing to do.

Getting the support and favourable comments that many have sent helps to make all the late

nights and lack of free time from Softex well worthwhile.

I can fully sympathize with other spouses who find initially the computer has taken over their lives. Thankfully after a while things do? right themselves onto a more even keel meaning a more normal lifestyle.

Doug Thomas

How do you follow your wife with the above. Few of us are prepared to admit they really do have to put up with a lot from us men.

Some 3 years ago after exhausting the capacity of my TI 58C Calculator for programming I finally become interested in computers. This started after seeing a Canberra Television advert in Time magazine where they offered free home demonstrations, so after much assuring my wife that I was only going to have a look and was not interested in buying a home computer I invited Canberra TV around. Well, the demonstration was not spectacular, but it sure got me making some enquiries as to what computers were available and there prices. It was not long before I found that the TI-99/4 was the cheapest (\$1000.00 with monitor) and had the best definition. Well, the rest is history, "wife" was upset again!! and I had a new toy.

I soon became a proficient programmer, became Melbourne's User Group Co-ordinator etc.. From there Softex was born last year. As most people find that despite your pleas that computing becomes an all consuming hobby??

Born in Numurkah, Victoria, I grew up on a farm which my father and younger brother still manage. Not being interested in farming I came to Melbourne and spent the first six years working for Kodak. Whilst there I finally achieved my life's dream to become a Pilot some 18 years ago. With-in two years I had my Commercial Pilots Licence (still current), but as there were no jobs about in flying I then became an Insurance Assessor involved with assessing Third Party claims, and am still employed by the same employer 15 years later.

Apart from Flying, I have dabbled in photography, sound movies, over-seas travelling, electronics amongst other interests. I also play Badminton, and have been actively involved with the Australian Air League. Last year I managed to obtain an Instrument rating with my flying, so now I'm often out in the middle of the night shooting an ILS. At times my work takes me away from home for a few days at a time, so when you ring and find me not there, now you know why.

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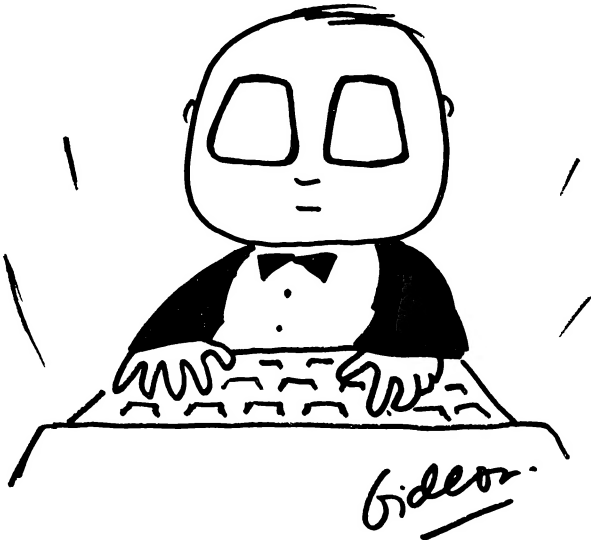
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Letters to the Editor



Dear Mr. Graham,

Thank you for your kind comments about SOFTEX. Unfortunately, we had already page-numbered issue number 2 when we received your letter, and it would be confusing to start consecutive numbering now. In this issue, you will find a section devoted to the best tips from User Groups, and OPTION BASE is covered.

In "Large Number", p.27, SOFTEX no.1, subroutine 4000 puts the large number onto the screen. Imagine an "H" with a bar across the top and bottom, (a digital figure 8). Now, any single-digit number can be displayed by "lighting up" certain of those horizontal or vertical bars, and that is all subroutine 4000 does.

I drew a digital figure "8", and worked out the CALL HCHAR and CALL VCHAR statements necessary to "light up" each of the lines which make it up. Then I wrote down each number from 0 to 9, and ticked which of these strokes were used in its formation. I then found, (try it), that some of the strokes are common to most numbers, and others are used by only a few. I then rearranged the CALL HACHAR and CALL VCHAR statements in decreasing order of use.

Then, to form a number, the program only uses the statements appropriate to that number. A lot of program lines are saved by doing it this way.

In regards to "Text-it" see the section "OOPS" in this issue with the various mistakes. This program shows how easy it is to get trapped by using an expanded version of my own program built up over a period of time. Several problems arise due to memory space, not to mention other quite large variations. From experience now I do not except any program on face value as more often or not there are a few tricky mistakes there. As my set up uses Disk and 32 K memory it is easy to forget limitations in this regard.

Editors

The Editor, SOFTEX Magazine;

Dear Sir,

Congratulations for a first class book that is the first issue, I hope it has a long life. Big W stores have had a large stock of 99/4A selling for \$179.00 and they have been selling like hot cakes, and I am pleased to say my son-in-law bought one for me. My old 99/4 used to freeze frequently but the 4A has not frozen once.....Now some tips-please number the pages consecutive from the first issue so issue 2 would start at page 32; it's easy for an index.

As I am a mug programmer could you explain in (simple) language some of the expressions, i.e. what does "OPTION BASE 1" do and why?

Perhaps "Large Number" program could be described step-by-step.....I am not sure of subroutine 4000.

Also "Text-it" is an excellent program if it worked - what is the correct line 15 - what does line 16 do, also subroutine 25 does not redefine the alphabet as it should.....

Another good point in your book is having the lines 28 positions long, then I can check the last letter of the line I am typing with the one above. I am looking forward to the next issue with more good information.

A.W.Graham,
Mandurah, W.A.

Your prompt return of SOFTEX magazine was much appreciated and its refreshing to read a few articles that aren't biased by a publisher's allegiances.

The problem I see facing a large number of TI owners is where to go now. Over the last few months, many people (myself included) have "grabbed" a 99/4A as a "cheap" introduction to home computing with a high standard machine. A large number of those machines by now will be collecting dust in a cupboard along with the rest of the Xmas presents; however, a few will be looking to progress.

With its lack of compatibility and limited expansion, the obvious eventual outcome will be to off-load the TI for a different system. However, the computer market is so volatile that a purchase now almost guarantees an obsolete machine (again) within 12 Months.

So what to do? The answer is NOT to buy a new system and NOT to spend too much expanding a limited, obsolete TI.

This leads me to ask these questions:

1. How can I expand the TI RAM, without buying the expansion box and 32 K memory card (\$400.00 at least).

2. Can I run a disk without the box and controller card (\$300.00 plus the disk drive at \$400.00).

3. Is it worth buying software (and hardware) from the UK and USA because of the limited supply in Australia (and if so, who from)?

I. Preston.
Williamstown.

Thankyou for your comments, we endeavour to ship all goods on a return mail basis if available. At times shortage of supplies from wholesalers prevent this, but we make sure goods will be dispatched as soon as practical.

Your concerns are very familiar, and are regularly asked by users. There is no easy answer, and in short you have to decide if you want to continue with computing as a hobby or not. No matter which system you have, the basic computer was your cheapest purchase. To the new comers who paid \$199.00 or less for your computer the expansion costs do appear high, but if you begin to price other systems you will soon find out that the TI system is quite cheap over all. Those who bought the TI-99/4 3 years ago in Australia paid \$1600.00 for the computer and monitor/TV. This dropped to \$1000.00 from June 1981 and with the introduction of the 99/4A the basic computer cost \$499.00 until news of TI's withdrawal from the home computer market.

To date, no one here or overseas has come up with a radically cheap method of expansion, and it is a case of deciding to "bite the bullet" and purchase the complete system or stay with the basic machine. Whilst the expansion box is expensive (\$199.00) by itself, it does allow expansion to a high degree. The price of the TI disk drive is high, for a single sided/single density disk system, but the other costs are reasonable considering the way the equipment is built.

Third Party manufacturers do provide alternatives overseas, but by the time you import this equipment, and take the risks associated with importing, the landed cost will be possibly higher than you can purchase here. One manufacturer does have a disk drive (Hard sectorred) that can be used with the TI, but you will not have a compatible system to other users. See also in News Briefs regarding new peripherals being produced by CorComp Inc..

Currently, there is no other computer on the market that exceeds the TI for value for money, or for that matter ability. The various Groups around Australia and the World, along with SOFTEX, are dedicated to keep the TI system alive in the future.

Finally, one of the reasons that we formed Softex is that we know the TI-99/4A computer very well and feel that we can help others by our experience. For others who have dreams, you can make your mark even with a small home computer as one of my programs was instrumental in the developing of the latest TAB color displays now seen in agencies around Victoria.

Dear Sir,

I found your article on the AMUST printers very interesting. As I do not have a peripheral box and would like to add the printer capability as a "stand-alone" item, can you supply the relevant hardware? Until a few years ago I was a practicing electronics technician so I'm happy to undertake wiring jobs, though my computer experience is limited.

With reference to your article on 'lock-up' I experienced this irritating problem and found that by simply cleaning the contacts in the module port and the module socket with alcohol proved effective. However, it was obvious to me that some kind of lubricant had been used on the contacts, perhaps to improve reliability??? I guess only time will tell as to whether the cleaning is the final solution!!

Finally, thank you for your magazine, I would like to see plenty of technical information (ie. how to wire-up stand alone peripherals etc.). Also do you intend importing third party hardware and software from the States?

P. Heskett

Thankyou for your comments on the magazine.

Apart from second hand stand alone RS232 peripherals that occasionally come on the market, unfortunately apart from importing units advertised in the States there is little else you can do. Also see Talking Computers Advert. in this magazine for the Axiom Parallax (TI centronics printer port) for \$199.00.

Several people have suggested that cleaning the module contacts is all that is needed to stop Lock-ups, and whilst some have prevented the early stages this way, it will not cure the real cause of bad lock-ups, which is caused by the movement of the contact with the circuit board.

Your wish for technical information has been echoed, but until we find some one with this expertise willing to write for us, we are unable to help as our knowledge is not in this direction.

Yes, we intend to import selected software/hardware from overseas, as can be seen from another article in this magazine.

WANTED

- * GOOD PROGRAMS - Games, business and utility programs.
- * USEFUL Programming Tips
- * ARTICLES on uses of the computer, feature or tutorials on programming or uses.
- * SUGGESTION for future articles.

Send material on Disk/Tape if possible (will be returned) along with any explanatory notes. Prefer formatted on TI-WRITER but if use some other Word Processor send copy in order to read program.

A fee will be paid for material used.

Send to: **SOFTEX P/L.**,
59 Landstrom Quadrant,
Kilsyth. 3137.

IMAGIC

– The Future ?

Texas Instruments' withdrawal from the Home Computer market is now six months old, but Users are still no clearer about the future. If anything, the entry of Imagic onto the scene has clouded an already murky picture.

For those Users who don't know, Imagic have taken over from TI (Australia) the responsibility for distribution of all TI Home Computer products, effective 1-4-84.

What Users want to know, (and we believe it is TI's responsibility to answer), is:

"How much longer shall stocks of peripherals and software last?"

We at Softex have had the opportunity to talk with people from Imagic. It appears to us that they have developed a keen appreciation of the 99/4A's strong points in a short time. If they are a little unsure about a lot of things about the Computer we love to hate, this can only come with time and application. In general, it would appear Imagic are keen to do well, and that can only bode well for Users.

Imagic have said that will source software and peripherals from other sources than TI; presumably as TI stocks dwindle. What concerns us is that Imagic are a company whose *raison d'être* is game software - video games if you wish. Shall they be able to cope with the transition to "serious" software such as "Multiplan" or "TI-Writer"?

In essence, can Imagic handle the use of the 99/4A as a serious computer, not merely a games machine? They believe so, and as Users we can only wish them success, the alternative being rather unpleasant to contemplate.

To be successful, however, Imagic need sales of software. To obtain sales, with no more computers being sold, the existing 99/4A owners are their sole source of revenue.

There are believed to be 15,000 99/4A's in Australia. The User Groups and Softex can account for, perhaps 2500. Where are the rest? Surely they cannot all be consigned to cupboards in the spare room, there to gather dust?

Imagic have a further problem - retailers. With no computers to sell, the retailer base is shrinking rapidly. Even those retailers still

left are not solely TI committed. Who can blame them? They have businesses to run, preferably at a profit.

Imagic, it seems to us, have developed the only possible strategies open to them. Firstly, they are approaching known Users per medium of the User Groups. This has already happened in Sydney and Melbourne, and possibly elsewhere.

Secondly, they intend to advertise, to attempt to make themselves known to those Users who have not joined Groups. Unfortunately, neither Softex nor User Groups have the resources to advertise widely.

Imagic appear to intend to provide Users with direct access for mail orders. They shall also have special retailers (Guild retailers). Precisely what this means is a little unclear at present, but it would appear that Imagic intend to give Users every possible opportunity to obtain information about products available.

This is good, but the question still remains are there enough Users willing to purchase to make it worthwhile for Imagic to expend special efforts? After all, they have other irons in the fire, other computers to provide software for, and if the turnover in TI related goods is unsatisfactory, why should they go to the bother of sourcing third party software and peripherals?

We at Softex are all too aware of the costs of importing goods. Unless it is done against order, and that can mean a delay for the purchaser, someone has to make a value judgement about what quantity to import. If that judgement is amiss, the importer can end up carrying slow-moving stocks, and possibly paying out interest on the money spent. No business can be expected to carry such a burden unless there is turnover from other sales to support it.

Time alone will tell. Let us hope that enough of those "lost" 12500 Users will surface.

Good luck, Imagic, for all our sakes!

Financial Advisor Programs

By PETER BODEY

This series of programs won first prize in the Melbourne Users Group Software Competition in Feb., 1984. SOFTEX has acquired the rights to these programs, and they are available on Disk from SOFTEX, for \$12.00.

INTRODUCTION

The program was originally conceived as a single program incorporating many facets of financial calculations and aids for decision making. The limited memory resources of the TI 99/4A forced the breaking of the original program into four smaller programs. This increased the overall program size as many of the smaller routines had to be duplicated.

The title "MENU" is stored under the name "LOAD" which causes the Program to RUN on selection of extended basic. Each program incorporates the statements:-

```
ON BREAK NEXT :: CALL INIT::  
CALL LOAD(-31806,16)
```

This statement will disallow the program to be interrupted in any way except by the "EXIT" option on each menu or by switching off the console; with subsequent loss of program.

The reason for these inclusions was simply because they were there. This is my first program written in BASIC and I was experimenting quite a bit along the way.

The mortgage program was my very first attempt at a Basic program and so it includes the relatively crude PRINT statements in place of the neater and much less disconcerting DISPLAY AT option.

The other segments of the program grow a little in sophistication but still leave a lot to be desired. The original idea was to have programs that worked regardless of elegance.

The interest calculator option was suggested by a Melbourne Users Group member, Dave Miller. We worked together on a couple of alternative techniques for solving the interest rate. In simple terms a guess is made and it is continually refined until it suits the original data. The algorithm used generally cycles about 6 times so there is a slight delay. One of our first attempts using a different algorithm took at least 140 cycles to even get close!

BLOW BY BLOW

1. BUDGET FORMER

This task is much more easily done by hand. It was written to ensure that each budget I made

was consistent. The program uses a array for Expenses DIM E(200). The first 100 members of the array represent different expenses and groups of expenses, the second corresponding 100 members reflect the inflated values of the first 100.

eg. E(6) contains petrol costs per week and E(106) holds petrol costs per week at the estimated inflation rate.

The sprite display is merely to relieve the boredom whilst waiting for loading and scan times. All programs now use the fast scan option. This caused the scan time on the budget program to drop from over 20 seconds to under 4 seconds. The load time is naturally unalterable. (An interesting note is the video processor is interrupted when the disk is being used, note the jerky movements of the sprites for part of the loading process.)

The way I use the program is to enter current expense rates and then use the inflation option to estimate for future costs. This is a crude method as it inflates all costs even Medicare and Superannuation which generally only rise after a pay rise. However it does give a pessimistic outlook which I believe is essential to any budget you really hope to adhere to.

After entering all the usual weekly expenses you are asked if you have gas. If you answer yes, 6 inputs are required as in my area gas bills come every 2 months. If you answer no you are spared the tedium of entering 6 zeroes. The 6 individual inputs are immediately added. The idea is to enter your last 6 gas bills which saves you from the addition. Of course you could enter the annual bill as the first input and enter zeroes for the rest, this will not upset the program. Similar choices are offered for electricity (4 bills per annum) and telephone (4 bills per year).

The insurance section contains a mysterious option "other car insurance". This is not for a second car but for Comprehensive or Fire and Theft insurance. If you have 2 or more cars you will have to do the additions yourself for each insurance group. House insurance is for the building itself. Medical fund is for those still with private health insurance.

The program can additionally handle up to 3 regular loan payments. This is the place to include any regular credit card payment (eg. Bankcard).

The prompt requesting how much on average do you spend on presents and how many do you buy

seems a little rude. Expenditure on presents of one kind or another can be quite a dent in your budget and should be properly accounted for.

The rates option contains an "other" entry because some people living just outside the MMBW's area must pay rates to the MMBW for planning.

Under associations, car association is for eg. RACV membership.

Medicare created a few headaches for the program and a good guess is made in some cases. The general levy is 1% or 0.5% for servicemen with dependants. A family (combined) income in excess of \$ 70,000 per annum is the upper cut off point. Above this income level \$ 700 is paid regardless. The program will cater for this. The problem arises for low income earners, the levy is actually shaded in so as not to disadvantage anyone. The program does not allow for any shading, it assumes either the full 1% (or 0.5%) levy or no levy at all. The differences should be fairly small and do not affect many people. The lower cut off wage is determined by the number of dependants, this necessitates the situation menu. If you chose the "more than 1 dependant" option you may enter up to 9 dependants. For more than this the program would need to be modified. The cut off GROSS wage for no levy is calculated and displayed.

Under miscellaneous car repairs includes tyres, brakes, servicing etc.. All expenses on the car excluding petrol, registration and insurances. Ambulance is for subscription to an ambulance service. Subs. is for magazine subscriptions in total for the year.

Choose yes for inflation and enter your best guess as this will be included in the print out and helps give a realistic outlook on the coming year. At this point there is a delay while various calculations are performed. Next a summary of the year's delights is displayed over a number of screens.

Your pay period and GROSS wage are then requested to enable calculation of excess funds (if any!) at the end of a years adherence to budget.

An option is given to change the tax scales if necessary. As far as I know they are currently correct. Although some employers are still deducting at the interim rates to allow for the tax scale changes at the old 33 cents/\$ level over less than a full year. The rebate option is self explanatory, last years tax form contains details if necessary.

If the review option "yes" is selected the program goes right back to the beginning and displays all entered values. This allows (in a very fatiguing way) changes to be made before printing.

NB. ALL OF THESE PROGRAMS ASSUME USE OF A "PIO". I USED AN 80DT AMUST PRINTER AND THE CONTROL CODES REFLECT THIS.

For use of a serial printer extensive modifications to the print section will be necessary.

If you are fed up at this stage press "no" for print and the title menu appears. If you choose "yes" a prompt appears and after a short delay you may enter the date of the budget.

In case you are wondering why there are 52.17857 weeks per annum read on:

Over 4 years there are $365 \times 4 + 1$ days. Divide this by 28 (4years x 7 days/week) to find the number of weeks per year.

Finally the minimum gross required listing towards the bottom of the print out is useful if you wish to change jobs but not life-style. This was included as the relationship between gross and actual take home is not always obvious.

2. AUSTRALIAN TAXATION RECKONER

As the name implies this merely calculates your taxation rate and will take into account any rise. The annual rates will be displayed then the rates per pay period. This program is a subset of the tax calculation section of the budget program. Before Medicare you could enter your after tax pay and back calculate to find gross wage. Medicare complicated this calculation and it is no longer an option as I lost interest. The original reverse sub program is still included for eventual repairs. Meanwhile you could use the formulae in the sub program to calculate gross from after tax pay disregarding Medicare.



3. HOME MORTGAGE CALCULATOR

This program uses formulae from a Hewlett-Packard programmable calculator's handbook. They appear to give reasonably accurate results.

The program will NOT print out how much you owe after every payment. This demoralising process may be interesting but not particularly useful. What I feel are four more useful outputs have been included, eg. Option 4 is for those currently saving for a house and (after using the budget program, of course!) know how much they can afford per eg. week and want to know how much they can borrow for this repayment.

4. PERSONAL LOAD AID

The idea for this grew out of the knowledge that under certain conditions a seemingly higher reducing interest rate can be cheaper than a seemingly lower flat rate. It was an attempt to find the breakeven point, 3 scenarios are provided to suit your budget.

YOU MUST ENTER REAL AND CORRECT DATA for the bankloan (flat interest rate) as the formula uses exact values. DO NOT MAKE AN ESTIMATE, FIND OUT THE CORRECT FIGURES, failure to do this will result in ridiculous output.

Please take a good note of the warnings given with the program, I have no idea how good/bad this program is at estimating. I use them as a guide only and so far they have given reasonable results. Don't say you weren't warned!

5. INTEREST CALCULATOR

Calculates the approximate REDUCING interest rate for a given input.

ERATA: Jan. 1984 Vol. 1 No. 2

Inventory Control.

Due to use of Memory those not having a 32 K card should change the DIM statement in Line 150 to:

```
150 DIM I9$(150),D9$(150),L9
$(150),O(150),V(150),P(150),
C9$(150)
```

OOPS!!!

ERATA Nov. 1983 Vol. 1 No. 1

TEXT-IT.

Unfortunately several errors came to light in the program TEXT-IT. This occurred as the version published was received just before going to press, and as it had several improvements over the earlier version we published this. This program had been added to in a full system with 32 K Memory and we did not realize that the additions had been such that it would no longer run in a basic 99/4A with-out memory. We pass our sincere apologies to those of you who typed the program in and didn't get it to run.

Another mistake was that Data should have been saved in DISPLAY 80 format, not Internal 80.

Changes for all Computers

Delete Lines:

15 Only rubbish

Change Lines:

```
16 PRINT : : : : : : : : DISPLA
Y AT(19,3):" >
(64 spaces) <"
```

```
22 GOTO 16
76 FOR YLL=LL-1 TO 1 STEP -1
:: MS$(L+1)=SEG$(MSG$(L+1),
YLL,1)
77 MS$(L+1)=SEG$(MSG$(L+1),Y
LL,1):: IF MS$(L+1)=" " THEN
78 ELSE 79
119 OPEN #3:"DSK1."&FILENAME
$,OUTPUT,SEQUENTIAL,DISPLAY
,VARIABLE 80
128 OPEN #3:"DSK1."&FILENAME
$,INPUT,SEQUENTIAL,DISPLAY
,VARIABLE 80
195 OPEN #3:"CS1",DISPLAY,OU
TPUT,FIXED 80 :: GOTO 120
196 OPEN #3:"CS1",DISPLAY,IN
PUT,FIXED 80 :: GOTO 129
```

Changes Required for Computers not having a 32 K Memory Card

```
6 DIM MSG$(60) :: DIM MS$(60)
```

Delete Lines:

```
74 75 76 77 78 79 108
112
```

All the above lines are associated with the Right Hand Justification option which robs the Computer of memory.

TURBO RACER

By Danny Fredrickson

Ever dreamt of being a Champion Racing driver, well now, here is your chance to live this out. You are in charge of a Turbo Racer moving along a Three Lane Highway, and have to avoid other cars on the road, which at times reduces to two lanes, and in addition you have to contend with the added hazards of darkness and fog.

This game is written in Extended Basic by one of our teenage readers from Daylesford, Victoria. It offers a great challenge to make it through to the end.

To play TURBO RACER you need Joystick #1 connected, but unlike most games you do not need the Alpha Lock up.

Moving the Joystick Left or Right makes the car change lanes, whilst pushing it down applies the Brakes to the Racer, which causes the cars in front to move ahead.

There are several disadvantages in using the brakes, including having a 50 point penalty applied each time you use them, not to forget the danger of a car coming up from behind.

Fog appears about every 500 points minus penalties. The fog lets you see only the bottom half of the road, giving you less reaction time to see other cars on the roadway, as they are white and cannot be seen in the fog.

The next hazard to confront is in having the roadway becoming two laned which means that it is harder to keep dodging cars. If you are in the left hand lane when the roadway changes from three lanes to two, you are placed in the left hand lane of the two lane road, and are given two seconds grace before you can crash. You also receive two seconds of safety when the road changes back to three lanes.

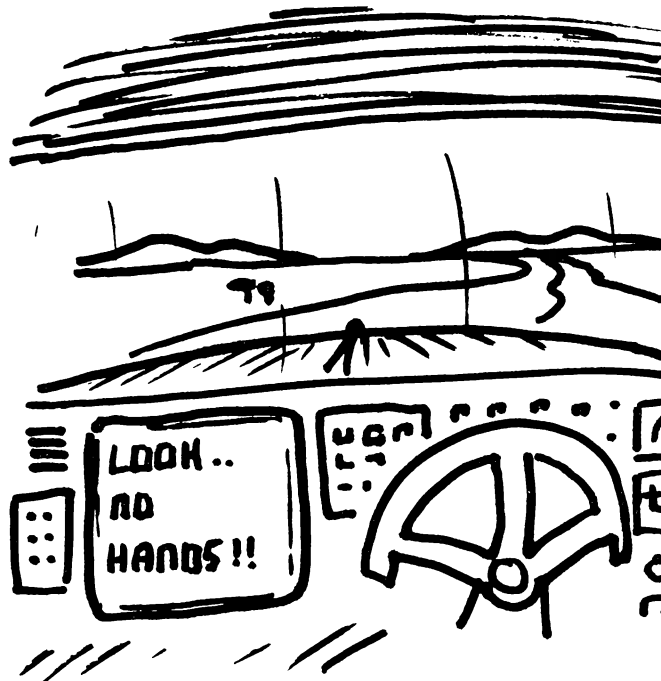
The most difficult hazard you encounter is Night, which also happens every 500 points like the Fog. To make it through the night you have to remember where your car is as it is now a black car without lights.

Just when you thought all your troubles were over the other cars begin to change speed two at a time.

As you can see this game offers a lot of challenge, and certainly speaks well of a young programmers skill to introduce so many hazards.

Leave the Alpha Lock down as all answers need to be answered in upper case.

Well, there you are, go to it and see how long you can last. Don't forget if any of you have a game you have written, please submit it to SOFTEX for consideration.



```
100 REM ***Copyright SOFTEX
P/L***
110 REM *****
120 REM *TURBO RACER*
130 REM *****
140 REM BY DANNY FREDRICKSON
150 REM 26/1/84
160 CALL CLEAR
170 FOR I=1 TO 14 :: CALL CO
LOR(I,6,2):: NEXT I
180 GOTO 1640
190 REM
200 ST=0
210 HI=170
220 CG=50
230 TM=0
240 HSC=0
250 MEN=5
260 SC=100
270 CALL COLOR(9,2,13)
280 EX=0
290 FOR I=11 TO 14 :: CALL C
OLOR(I,5,5):: NEXT I
300 CALL COLOR(11,5,5)
310 CALL COLOR(3,16,2)
320 CALL COLOR(4,16,2)
330 CALL COLOR(10,3,3)
340 CALL COLOR(0,5,5)
350 SCORE=0
360 CALL CLEAR
370 FIRST=0
380 FOR I=5 TO 8
390 CALL COLOR(I,6,2)
400 NEXT I
410 RESTORE
420 CALL CLEAR
430 LET CH$="FOFOFOFOFOFOFOF
O"
440 CALL CHAR(136,CH$):: CAL
L CHAR(129,CH$)
```

```

450 CALL CHAR(128,"FFFFFFFF
FFFFFFFF")
460 CALL DELSPRITE(ALL)
470 CALL MAGNIFY(1)
480 CALL SCREEN(2)
490 CALL COLOR(1,3,3)
500 SD=8
510 CALL COLOR(2,5,5)
520 GOTO 550
530 REM
540 REM
550 CAR=0
560 CALL CHAR(104,"102C5C1D1
ADFFF5B")
570 RANDOMIZE
580 LANE=2
590 CAR=2
600 CALL CLEAR
610 GOTO 620
620 REM
630 FOR I=1 TO 10
640 NEXT I
650 REM KAKTAS
660 CALL CHAR(99,"49A9A5B264
3A1C18")
670 REM POST
680 CALL CHAR(40,"FFFFFFFFF
FFFFFF")
690 REM LINES
700 CALL CHAR(98,"0010101010
101000")
710 REM DRIVERS CAR
720 CALL CHAR(97,"185A7E5A18
DBFFDB")
730 CALL HCHAR(1,1,104,352)
740 FOR RD=14 TO 17
750 CALL VCHAR(1,RD,40,24)
760 NEXT RD
770 FOR I=1 TO 11
780 CALL HCHAR(I,14,112,4)
790 NEXT I
800 CALL VCHAR(1,14,120,11)
810 CALL VCHAR(12,14,128,13)
820 CALL VCHAR(12,15,129,13)
830 CALL VCHAR(1,15,136,11)
840 FOR I=16 TO 17 :: CALL V
CHAR(1,I,30,11):: NEXT I
850 SC=0
860 ST=0
870 CG=50
880 HI=170
890 DISPLAY AT(1,6)SIZE(6):"
HSCORE" :: DISPLAY AT(1,12):
HSC
900 DISPLAY AT(1,18):"SCORE"
910 CALL HCHAR(1,3,97,4)
920 FOR S=18 TO 26 STEP 2
930 CALL SPRITE(#S,98,16,1,1
12,50,0)
940 CALL SPRITE(#S+1,98,16,1
0,123,50,0)
950 FOR I=1 TO 15
960 NEXT I
970 NEXT S
980 GOSUB 2470
990 CALL SPRITE(#1,97,2,HI,1
17,0,0)
1000 REM
1010 LET R=INT(RND*7)+1
1020 IF FIRST=1 THEN 1050
1030 GOSUB 1130
1040 REM MAIN CONTROL OF CAR
, CRASHES AND HAZARDS
1050 LET SC=SC+1 :: CALL COI
NC(ALL,CO):: IF CO=-1 THEN 1
380 :: CALL JO:$(1,X,Y) ::
IF X=-4 THEN 1090 :: IF X=4
THEN 1070 :: IF Y=-4 THEN 15
30
1060 IF SC>=CG THEN 2010 ::
DISPLAY AT(1,23):SC :: GOTO
1050
1070 IF LANE=3 THEN 1110 ::
LANE=LANE+1
1080 GOTO 1110
1090 IF ST=1 AND LANE=2 THEN
1110
1100 IF LANE=1 THEN 1110 ::
LANE=LANE-1
1110 CALL LOCATE(#1,HI,11*LA
NE+95)
1120 GOTO 1010
1130 REM
1140 FOR L=1 TO 3
1150 FIRST=1
1160 RANDOMIZE
1170 IF CAR>7 THEN 1200
1180 ON L GOSUB 1210,1280,13
30
1190 NEXT L
1200 RETURN
1210 LET S=INT(RND*4)*SD+14
1220 IF ST=1 THEN CALL COLOR
(#2,3)
1230 CALL SPRITE(#CAR,97,15,
1,106,S,0)
1240 IF ST=1 THEN CALL COLOR
(#2,3)
1250 LET CAR=CAR+1 :: IF CAR
<9 THEN 1270
1260 LET CAR=2
1270 RETURN
1280 LET S=INT(RND*4)*SD+18
1290 CALL SPRITE(#CAR,97,15,
1,117,S,0)
1300 LET CAR=CAR+1 :: IF CAR
<9 THEN 1320
1310 LET CAR=2
1320 RETURN
1330 LET S=INT(RND*4)*SD+22
1340 CALL SPRITE(#CAR,97,15,
1,128,S,0)
1350 LET CAR=CAR+1 :: IF CAR
<9 THEN 1370
1360 LET CAR=2
1370 RETURN
1380 REM CRASH
1390 CALL MOTION(#1,20,0)
1400 CALL SOUND(500,-6,0)
1410 CALL SOUND(1000,-7,0)
1420 CALL MOTION(#1,0,0)
1430 FOR I=1 TO 50
1440 NEXT I
1450 FOR A=1 TO 4
1460 CALL DELSPRITE(#A)
1470 NEXT A
1480 LET MEN=MEN-1 :: IF MEN
<1 THEN 2370
1490 CALL HCHAR(1,MEN+2,32)
1500 CAR=2
1510 FIRST=0
1520 GOTO 990
1530 FOR A=2 TO 5
1540 CALL MOTION(#A,-10,0)
1550 NEXT A
1560 FOR I=1 TO 300
1570 NEXT I
1580 FOR A=2 TO 5
1590 LET S=INT(RND*3)*SD+14
1600 CALL MOTION(#A,S,0)
1610 NEXT A
1620 LET SC=SC-50 :: LET CG=
CG-50
1630 GOTO 1000
1640 REM START
1650 CALL MAGNIFY(2)
1660 CALL SCREEN(2)
1670 FOR I=1 TO 5
1680 READ N
1690 CALL SPRITE(#I,N,6,80,I
*15+50,-110,0)
1700 NEXT I
1710 FOR Y=1 TO 5
1720 READ N
1730 CALL SPRITE(#Y+5,N,6,90
+Y*4,Y*21+100,0,-110)
1740 NEXT Y
1750 DATA 84,85,82,66,79,82,
65,67,69,82,82
1760 FOR I=1 TO 55
1770 NEXT I
1780 FOR I=1 TO 10
1790 FOR X=1 TO 10
1800 NEXT X
1810 CALL MOTION(#I,0,0)
1820 NEXT I
1830 REM
1840 DISPLAY AT(20,9):"INSTR
UCTIONS?" :: ACCEPT AT(21,14
):Y$
1850 IF Y$="N" THEN 190
1860 IF Y$="Y" THEN 1880
1870 GOTO 1840
1880 REM INSTRUCTIONS
1890 CALL DELSPRITE(ALL)
1900 CALL CLEAR
1910 PRINT "          INSTRUCTI
ONS"
1920 PRINT "          FOR TURBO RA
CER" :: PRINT :: PRINT :: PR
INT
1930 PRINT "You are the driv
er of a very fast racing car
.          Your job is to d
rive as far as you can befor
e you have "
1940 PRINT "crashed all your
cars.          Your car has a s
afety device which will stop
your car          from crashing af
ter hitting "
1950 PRINT "          another car bu
t it only          works sometimes
so don't          depend on it.
          Joystick one co
ntrols the "
1960 PRINT "car.          Pulling th
e joystick          back slows you d
own but also takes away fift
y points."
1970 PRINT "You have a car r
epaired at          the completion o
f each day. "

```

```

1980 PRINT "          GOOD RAC
ING"
1990 INPUT "PRESS ENTER TO S
TART":A$
2000 GOTO 190
2010 REM +FOG+ETC+
2020 LET HI=HI-1
2030 LET TM=TM+1 :: IF TM>15
THEN TM=1
2040 ON TM GOTO 2050,2060,20
70,2080,2100,2120,2130,2140,
2150,2220,2260,2270,2280,230
0,2330
2050 LET S=INT(RND*4)*SD+14
:: LET CG=CG+50 :: SP=1 :: G
OTO 2290
2060 LET S=INT(RND*4)*SD+15
:: LET CG=CG+50 :: SP=2 :: G
OTO 2290
2070 LET S=INT(RND*4)*SD+13
:: LET CG=CG+50 :: SP=2 :: G
OTO 2290
2080 REM FOG STARTS
2090 CALL COLOR(10,15,15)::
CALL COLOR(12,15,15):: CALL
COLOR(14,15,15):: CALL COLOR
(0,15,15):: LET CG=CG+50 ::
GOTO 1050
2100 REM FOG FINISHES
2110 CALL COLOR(10,3,3):: CA
LL COLOR(12,5,5):: CALL COLO
R(14,5,5):: CALL COLOR(0,5,5
):: LET CG=CG+25 :: GOTO 105
0
2120 LET S=INT(RND*4)*SD+14
:: LET CG=CG+50 :: SP=1 :: G
OTO 2290
2130 LET S=INT(RND*4)*SD+15
:: LET CG=CG+50 :: SP=2 :: G
OTO 2290
2140 LET S=INT(RND*4)*SD+13
:: LET CG=CG+50 :: SP=3 :: G
OTO 2290
2150 REM TUNNEL STARTS
2160 IF LANE=1 THEN LANE=LAN
E+1
2170 CALL LOCATE(#1,HI,11*LA
NE+95)
2180 LET ST=1
2190 CALL COLOR(11,3,3):: CA
LL COLOR(12,3,3):: CALL COLO
R(14,3,5):: CALL COLOR(13,3,
5):: FOR I=18 TO 26 STEP 2 :
: CALL COLOR(#I,3):: NEXT I
2200 CALL COLOR(#2,3):: CG=C
G+50
2210 GOTO 1050
2220 REM TUNNEL ENDS
2230 LET ST=0
2240 CALL COLOR(11,5,5):: CA
LL COLOR(12,5,5):: CALL COLO
R(14,5,5):: CALL COLOR(13,5,
5):: FOR I=18 TO 26 STEP 2 :
: CALL COLOR(#I,16):: NEXT I
2250 CALL COLOR(#2,15):: GOT
O 1050
2260 LET S=INT(RND*4)*SD+14
:: LET CG=CG+50 :: SP=1 :: G
OTO 2290
2270 LET S=INT(RND*4)*SD+15
:: LET CG=CG+50 :: SP=2 :: G
OTO 2290
2280 LET S=INT(RND*4)*SD+13
:: LET CG=CG+50 :: SP=3 :: G
OTO 2290
2290 CALL MOTION(#SP+1,S,0):
: GOTO 1050
2300 REM NIGHT
2310 REM IF TW=2 THEN 2190 :
: LET TW=2 :: GOTO 910
2320 FOR I=10 TO 14 :: CALL
COLOR(I,2,2):: NEXT I :: FOR
I=0 TO 2 :: CALL COLOR(I,2,
2):: NEXT I :: LET CG=CG+50
:: GOTO 1050
2330 REM DAY
2340 CALL COLOR(2,5,5)
2350 IF MEN>4 THEN 2360 :: L
ET MEN=MEN+1 :: CALL HCHAR(1
,MEN+1,97)
2360 FOR I=11 TO 14 :: CALL
COLOR(I,5,5):: NEXT I :: CAL
L COLOR(10,3,3):: CALL COLOR
(0,5,5):: CALL COLOR(1,3,3):
: LET CG=CG+50 :: GOTO 1050
2370 REM END
2380 IF SC>HSC THEN LET HSC=
SC :: DISPLAY AT(1,10):"HSCO
RE ":HSC
2390 CALL DELSPRITE(ALL)
2400 CALL CLEAR
2410 CALL COLOR(1,1,1)
2420 DISPLAY AT(2,10)BEEP ER
ASE ALL:"WOULD YOU LIKE ANOT
HER RACE"
2430 ACCEPT AT(10,30)VALIDAT
E("YNyn")BEEP:YN$
2440 IF YN$="Y" THEN 250
2450 CALL CLEAR :: DISPLAY A
T(10,5):"FAREWELL FROM TURBO
RACER" :: FOR I=1 TO 1000 :
: NEXT I :: CALL CLEAR :: EN
D
2460 SC=0
2470 REM CACKTASSES
2480 FOR I=6 TO 11
2490 IF I=9 THEN IT=IT+50
2500 RANDOMIZE
2510 LET R=INT((RND*8)+1)*20
2520 CALL SPRITE(#I,99,4,R,(
I-5)*30+IT-10,50+R/20,0)
2530 NEXT I
2540 IT=0
2550 RETURN

```



MAIL LABEL PROGRAM

By Doug Thomas

One of the most useful programs for Groups/Clubs etc. is a membership and mail list program. This program is designed for use with a printer which has a strip of single gummed Mail Labels in it. This program can hold up to 100 names and addresses if you have a 32 K memory expansion, but will only hold about 35 if you have a basic TI-99/4. The program has been designed to be easy to operate, and uses full on screen editing for correction purposes. In the search routines, only the first two letters are required for any surname, which saves the chances of making a mistake typing in the full name exactly as input.

This program uses Extended Basic, and has a sort routine in-built able to put names into alphabetical order. This sort routine is very slow with a large list.

The program as printed is designed for Disk use but can be converted for tape use easily. It is hoped to bring out a advanced version in the future that writes directly to Disk, and

uses the DBM Sort routine for sorting. This should increase the capacity to some 300 names.

Changes for those without 32 K memory

```
120 DIM NA$(35),AD$(35),HP$(
35),WP$(35),LN$(35),CS$(35),
AF$(35)
```

Tape Version

```
980 change word DISK to TAPE
2010 CALL CLEAR :: CALL SCRE
EN(7):: B$="CS1" :: A$=B$
2020 DELETE
2030 DELETE
2040 OPEN #1:A$,SEQUENTIAL,I
NTERNAL,OUTPUT,VARIABLE 128
:: GOTO 2070
2050 GOTO 2040
2060 DELETE
2180 OPEN #1:A$,INTERNAL,INP
UT,VARIABLE 128
```

```

100 CALL CLEAR
110 CALL SCREEN(6):: FOR I=0
  TO 14 :: CALL COLOR(I,16,6)
:: NEXT I
120 DIM NA$(100),AD$(100),HP
$(100),WP$(100),LN$(100),CS$
(100),AF$(100)
130 GOTO 930
140 REM *****VERIFI. SUB*****
150 CALL CLEAR
160 DISPLAY AT(2,1)BEEP:"ENT
RY";L
170 DISPLAY AT(4,1):"YOU ENT
ERED:" :: DISPLAY AT(7,1):NA
$(VER);" ";LN$(VER)
180 DISPLAY AT(8,1):AF$(VER)
:: DISPLAY AT(9,1):AD$(VER):
: DISPLAY AT(10,1):CS$(VER)
190 DISPLAY AT(12,1):"H-Phon
e: ";HP$(VER):: DISPLAY AT(
13,1):"W-Phone: ";WP$(VER)
200 DISPLAY AT(20,2)BEEP:"Ch
ange Anything? Y/N :N" ::
ACCEPT AT(20,26)SIZE(-1)VALI
DATE("YNyn"):X$
210 IF X$="Y" OR X$="y" THEN
  220 ELSE 230
220 CALL CLEAR :: D=VER :: G
OSUB 2720
230 RETURN
240 REM *****SUB TO QUIT*****
250 CALL CLEAR :: DISPLAY AT
(10,1)BEEP:"Do you want to t
erminate the session? Y/N: N
"
260 ACCEPT AT(11,16)SIZE(-1)
VALIDATE("YNyn"):X$
270 IF X$="YES" THEN 290 ::
IF X$="yes" THEN 290
280 IF X$="Y" OR X$="y" THEN
  290 :: GOTO 960
290 DISPLAY AT(12,10)ERASE A
LL:"GOOD BYE"
300 STOP
310 REM ***ORDERING SUB***
320 CALL CLEAR :: DISPLAY AT
(11,4):"The Entries are bein
g" :: DISPLAY AT(13,10):"Put
  in order"
330 FOR X=1 TO N
340 LET ORD=X
350 RT=LEN(LN$(X))
360 FOR T=X+1 TO N
370 LET NOR=T
380 IF LN$(X)=LN$(T)THEN 700
390 FOR I=1 TO RT
400 IF SEG$(LN$(X),I,I)>SEG$
(LN$(T),I,I)THEN 410 ELSE 42
  410 GOSUB 460
420 IF SEG$(LN$(X),I,I)=SEG$
(LN$(T),I,I)THEN 740
430 IF SEG$(LN$(X),I,I)<SEG$
(LN$(T),I,I)THEN 750
440 STOP
450 REM **SUB TO CHANGE ORDE
R**
460 NEW$=LN$(ORD)
470 LN$(ORD)=LN$(NOR)
480 LN$(NOR)=NEW$
490 NEW$=NA$(ORD)
500 NA$(ORD)=NA$(NOR)
510 NA$(NOR)=NEW$
520 NEW$=AD$(ORD)
530 AD$(ORD)=AD$(NOR)
540 AD$(NOR)=NEW$
550 NEW$=CS$(ORD)
560 CS$(ORD)=CS$(NOR)
570 CS$(NOR)=NEW$
580 NEW$=HP$(ORD)
590 HP$(ORD)=HP$(NOR)
600 HP$(NOR)=NEW$
610 NEW$=WP$(ORD)
620 WP$(ORD)=WP$(NOR)
630 WP$(NOR)=NEW$
640 NEW$=AF$(ORD)
650 AF$(ORD)=AF$(NOR)
660 AF$(NOR)=NEW$
670 RETURN
680 STOP
690 GOTO 750
700 MNT=X
710 GOSUB 820
720 IF T=N THEN 780
730 GOTO 750
740 NEXT I
750 NEXT T
760 IF X+1=N THEN 790
770 IF X=N THEN 790
780 NEXT X
790 RETURN
800 STOP
810 REM ***ORDER FIRST NAMES
***
820 FOR F=MNT TO MNT+1
830 FT=LEN(NA$(F))
840 FOR I=1 TO FT
850 IF SEG$(NA$(F),I,I)>SEG$
(NA$(F+1),I,I)THEN 890
860 IF SEG$(NA$(F),I,I)=SEG$
(NA$(F+1),I,I)THEN 870 ELSE
  920
870 NEXT I
880 NEXT F
890 LET ORD=F
900 LET NOR=F+1
910 GOSUB 460
920 RETURN
930 REM ***NAME, ADDRESS AN
D PHONE LIST***
940 CALL CLEAR :: DISPLAY AT
(10,11)BEEP:"SOFTEX" :: DISP
LAY AT(12,8):"MAILING LIST"
:: DISPLAY AT(15,7):"By Doug
  Thomas"
```

```

950 FOR ZZ=1 TO 500 :: NEXT ZZ
960 CALL CLEAR :: CALL SCREEN(6):: FOR I=0 TO 14 :: CALL COLOR(I,16,6):: NEXT I :: DISPLAY AT(1,1)BEEP:"OPTIONS ARE: Names=";N
970 DISPLAY AT(3,5):"1 - Review List" :: DISPLAY AT(5,5):"2 - Add Names" :: DISPLAY AT(7,5):"3 - Delete Names"
980 DISPLAY AT(9,5):"4 - Search For a Name" :: DISPLAY AT(11,5):"5 - Read DISK" :: DISPLAY AT(13,5):"6 - Save DISK"
990 DISPLAY AT(15,5):"7 - Finished" :: DISPLAY AT(17,5):"8 - Order Entries" :: DISPLAY AT(19,5):"9 - Print Labels"
1000 DISPLAY AT(21,4):"10 - Change Data"
1010 DISPLAY AT(23,1):"WHICH OPTION?" :: ACCEPT AT(23,15):OP
1020 IF OP>10 THEN 1010
1030 ON OP GOSUB 1060,1270,1510,1810,2170,2010,250,320,2300,2660
1040 GOTO 960
1050 REM ***REVIEW LIST
1060 CALL CLEAR :: CALL SCREEN(11)
1070 FOR I=1 TO N STEP 3
1080 CALL CLEAR :: IF NA$(I)="XX" THEN 1230
1090 DISPLAY AT(1,2):NA$(I),LN$(I)
1100 DISPLAY AT(2,2):AF$(I):DISPLAY AT(3,2):AD$(I)
1110 DISPLAY AT(4,2):CS$(I):DISPLAY AT(5,1):"(H)-";HP$(I):: DISPLAY AT(6,1):"(W)-";WP$(I)
1120 DISPLAY AT(8,2):NA$(I+1),LN$(I+1)
1130 DISPLAY AT(9,2):AF$(I+1):: DISPLAY AT(10,2):AD$(I+1)
1140 DISPLAY AT(11,2):CS$(I+1):: DISPLAY AT(12,1):"(H)-";HP$(I+1):: DISPLAY AT(13,1):"(W)-";WP$(I+1)
1150 DISPLAY AT(15,2):NA$(I+2),LN$(I+2)
1160 DISPLAY AT(16,2):AF$(I+2):: DISPLAY AT(17,2):AD$(I+2)
1170 DISPLAY AT(18,2):CS$(I+2):: DISPLAY AT(19,1):"(H)-";HP$(I+2):: DISPLAY AT(20,1):"(W)-";WP$(I+2)
1180 DISPLAY AT(22,7):"Press E to Exit" :: DISPLAY AT(23,1):"Press Space Bar to Continue"
1190 CALL KEY(0,K,S):: IF S=9 THEN 1190
1200 IF K=69 THEN 1240
1210 IF K=32 THEN 1220 ELSE 1190
1220 NEXT I
1230 FOR Z=1 TO 300 :: NEXT Z
1240 RETURN
1250 STOP
1260 REM ***ADD NAMES
1270 L=N+1
1280 FOR I=L TO 100
1290 CALL CLEAR
1300 DISPLAY AT(1,2)BEEP:"ENTER DATA:"
1310 DISPLAY AT(3,1)BEEP:"LAST NAME" :: ACCEPT AT(4,1):LN$(I)
1320 DISPLAY AT(6,1)BEEP:"First Name and Initial" :: ACCEPT AT(7,1):NA$(I)
1330 DISPLAY AT(9,1)BEEP:"Affiliation or Address" :: ACCEPT AT(10,1):AF$(I)
1340 DISPLAY AT(12,1)BEEP:"Address" :: ACCEPT AT(13,1):AD$(I)
1350 DISPLAY AT(15,1)BEEP:"City, State, Postcode." :: ACCEPT AT(16,1):CS$(I)
1360 DISPLAY AT(18,1)BEEP:"*H-Phone" :: ACCEPT AT(19,1):HP$(I)
1370 DISPLAY AT(21,1)BEEP:"*W-Phone" :: ACCEPT AT(22,1):WP$(I)
1380 VER=I
1390 GOSUB 150
1400 DISPLAY AT(22,1):" More Names? Y/N :Y"
1410 N=N+1
1420 ACCEPT AT(22,21)SIZE(-1)VALIDATE("YNyn"):X$ :: IF X$="N" THEN 1440 :: IF X$="n" THEN 1440
1430 NEXT I
1440 DISPLAY AT(22,1)BEEP:"Record Data? Y/N :Y"
1450 NA$(N+1)="XX"
1460 NA$(N+2)="XX"
1470 ACCEPT AT(22,21)SIZE(-1)VALIDATE("YNyn"):X$ :: IF X$="Y" THEN 2000 :: IF X$="y" THEN 2000
1480 FOR X=1 TO 150 :: NEXT X
1490 RETURN
1500 REM***ROUTINE TO DELETE NAMES
1510 CALL CLEAR :: CALL SCREEN(7):: DISPLAY AT(2,1)BEEP:"Last Name of the Person whose Data is to be Deleted?"
1520 ACCEPT AT(5,1):NN$
1530 AA$=SEG$(NN$,1,2)
1540 FOR I=1 TO N
1550 IF SEG$(LN$(I),1,2)=AA$ THEN 1560 ELSE 1730
1560 DISPLAY AT(7,1)BEEP:"Is the Person ?"
1570 DISPLAY AT(9,1):NA$(I):DISPLAY AT(9,15):LN$(I)
1580 DISPLAY AT(10,1):AF$(I):: DISPLAY AT(11,1):AD$(I):: DISPLAY AT(12,1):CS$(I)
1590 DISPLAY AT(13,1):HP$(I)
1600 DISPLAY AT(20,1)BEEP:"Press Y/N or P for Print:Y" :: ACCEPT AT(20,26)SIZE(-1)VALIDATE("YNPynp"):X$
1610 IF X$="P" OR X$="p" THEN N GOTO 1920 ELSE 1940
1920 D=I :: TRR=D :: GOSUB 3030
1930 GOTO 1860
1940 IF X$="Y" OR X$="y" THEN N 1950 ELSE 1980
1950 DISPLAY AT(20,1)BEEP:"More? Y/N: N" :: ACCEPT AT(20,18)SIZE(-1)VALIDATE("YNyn"):Y$
1960 IF Y$="Y" OR Y$="y" THEN N 1810
1970 GOTO 1990
1980 NEXT I
1990 RETURN
2000 REM***WRITE NAMES TO DISK
2010 CALL CLEAR :: CALL SCREEN(7):: DISPLAY AT(5,2)BEEP:

```



```

"Is this a new List? Y/N :Y" 2360 DISPLAY AT(14,2):" " e" :: DISPLAY AT(17,1):"3 -
:: ACCEPT AT(5,28)SIZE(-1)V 2370 DISPLAY AT(12,2):" Aff/Add. 4 - Address"
ALIDATE("YNyn"):X$ Printing" 2780 DISPLAY AT(18,1):"5 - C
2020 IF X$<>"Y" OR X$<>"y" T 2380 DISPLAY AT(22,1):"Press ity,etc.6 - H-Phone" :: DISP
HEN 2050 H to Halt Printing" LAY AT(19,1):"7 - W-Phone 8
2030 DISPLAY AT(12,2)BEEP:"F 2390 FOR I=1 TO N - No Change"
ILE NAME :";B$ :: ACCEPT AT( 2400 IF NA$(I)="XX" THEN 255 2790 DISPLAY AT(20,1):"9 - P
12,13)SIZE(-10):B$ rint Label
2040 A$="DSK1."&B$ :: OPEN # 2410 IF SEG$(LN$(I),1,1)=C$ 2800 TRR=D
1:A$,SEQUENTIAL,INTERNAL,APP THEN 2430 2810 DISPLAY AT(22,1)BEEP:"W
END,VARIABLE 128 :: GOTO 207 high Option?" :: ACCEPT AT(2
0 2420 NEXT I 2,15):OP
2050 DISPLAY AT(12,2)BEEP:"F 2430 FOR I=I TO N 2820 IF OP<1 OR OP>9 THEN 28
ILE NAME :";B$ :: ACCEPT AT( 2440 IF NA$(I)="XX" THEN 255 10
12,13)SIZE(-10):B$ 2450 IF SEG$(LN$(I),1,1)=D$ 2830 ON OP GOSUB 2930,2940,2
2060 A$="DSK1."&B$ :: OPEN # THEN 2550 950,2960,2970,2980,2990,3000
1:A$,SEQUENTIAL,INTERNAL,OUT 2460 CO=CO+1 ,3030
PUT,VARIABLE 128 2470 DISPLAY AT(15,4):NA$(I) 2840 DISPLAY AT(22,1)BEEP:"F
2070 PRINT #1:N ;" ";LN$(I) inished? Press Y/N :Y"
2080 FOR I=1 TO N 2480 CALL KEY(0,K,S) :: ACCEPT AT(22,28)SIZE(-1)
2090 PRINT #1:LN$(I),NA$(I), 2490 IF K=72 THEN GOSUB 2570 VALIDATE("YNyn"):X$
AF$(I),AD$(I),CS$(I),HP$(I), 2500 PRINT #2:NA$(I);" ";LN$ 2850 IF X$="N" OR X$="n" THE
WP$(I) N 2810
2100 NEXT I 2510 PRINT #2:SEG$(AF$(I),1, 2860 DISPLAY AT(22,1)BEEP:"M
2110 PRINT #1:"XX","XX","XX" ore Changes? Press Y/N :N"
,"XX","XX","XX" :: ACCEPT AT(22,27)SIZE(-1)V
2120 CLOSE #1 ALIDATE("YNyn"):X$
2130 DISPLAY AT(20,2)BEEP:"I 2540 NEXT I 2870 IF X$="Y" OR X$="y" THE
've Recorded the Entries." : N 2660
: FOR ZZ=1 TO 250 :: NEXT ZZ 2550 CLOSE #2
2140 RETURN 2560 RETURN 2880 RETURN
2150 STOP 2570 DISPLAY AT(22,1):"Press 2890 NEXT D
R to Resume S to Stop" :: 2900 RETURN
2160 REM***READ FROM DISK*** FOR ZZ=1 TO 200 :: NEXT ZZ 2910 STOP
2170 CALL CLEAR :: CALL SCRE 2580 CALL KEY(0,K,S):: IF S= 2920 REM **CHANGE ROUTINE**
EN(3) 0 THEN 2580 2930 ACCEPT AT(9,15):LN$(TRR
) :: RETURN
2180 DISPLAY AT(13,2)BEEP:"F 2590 IF K=82 THEN 2620 2940 ACCEPT AT(9,1):NA$(TRR
ILE NAME : " :: ACCEPT AT(13, 2600 IF K=83 THEN 2610 ELSE :: RETURN
14)SIZE(-10):B$ :: A$="DSK1. 2580 2950 ACCEPT AT(10,1):AF$(TRR
)&B$ :: OPEN #1:A$,INTERNAL, 2610 CLOSE #2 :: GOTO 960 ) :: RETURN
INPUT ,VARIABLE 128 2620 DISPLAY AT(22,1):"Press 2960 ACCEPT AT(11,1):AD$(TRR
2190 INPUT #1:N H to Halt Printing" ) :: RETURN
2200 FOR I=1 TO N 2630 RETURN 2970 ACCEPT AT(12,1):CS$(TRR
2210 INPUT #1:LN$(I),NA$(I), 2640 STOP ) :: RETURN
AF$(I),AD$(I),CS$(I),HP$(I), 2650 REM **SUB TO CHANGE DA 2980 ACCEPT AT(13,1):HP$(TRR
WP$(I) TA** ) :: RETURN
2220 IF NA$(I)="XX" THEN 226 2660 CALL CLEAR :: DISPLAY A 2990 ACCEPT AT(14,1):WP$(TRR
0 T(2,1)BEEP:" Last Name of t ) :: RETURN
2230 IF AD$(I)="XX" THEN 226 he Person whose Data is to 3000 GOTO 2880
0 be changed?" 3010 RETURN
2240 IF I=N THEN 2260 2670 ACCEPT AT(5,1):CHANGE$ 3020 STOP
2250 NEXT I 2680 AA$=SEG$(CHANGE$,1,2) 3030 OPEN #2:"PIO"
2260 CLOSE #1 2690 FOR D=1 TO N+1 3040 CALL CLEAR :: DISPLAY A
2270 RETURN T(10,3)BEEP:"How many copies
2280 STOP ? :1" :: ACCEPT AT(10,20)SIZE
2290 REM **SUB TO PRINT LAB (-3):ZZ
ELS** 3050 FOR A=1 TO ZZ
2300 CALL CLEAR :: OPEN #2:" 3060 PRINT #2:NA$(D);" ";LN$
PIO" :: CO=0 :: DISPLAY AT(1 (D)
2,2)BEEP:"Print All Labels Y 3070 PRINT #2:SEG$(AF$(TRR),
/N: Y" 1,22)
2310 C$="A" :: D$="XX" 3080 PRINT #2:AD$(TRR)
2320 ACCEPT AT(12,24)SIZE(-1 3090 PRINT #2:CS$(TRR)
)VALIDATE("YNyn"):B$ 3100 PRINT #2:"":
2330 IF B$="Y" OR B$="y" THE " 3110 NEXT A :: DISPLAY AT(15
N 2370 ,3):"Finished? Y or N : Y"
2340 DISPLAY AT(12,2):"From :: ACCEPT AT(15,23)SIZE(-1)V
Letter :A" :: DISPLAY AT(14, ALIDATE("YyNn"):AB$ :: IF AB
2):"To Letter Before :XX" $="N" OR AB$="n" THEN 3040
2350 ACCEPT AT(12,15)VALIDAT 3120 CLOSE #2
E(UALPHA)SIZE(-1):C$ :: ACCE 3130 CALL CLEAR :: RETURN
PT AT(14,20)VALIDATE(UALPHA)
SIZE(-2):D$

```

Adding a Disk Drive to your TI Computer

By Doug Thomas

Probably more confusion surrounds the use of Disk Drives than any other peripheral for the TI-99/4A.

WHY USE A DISK DRIVE??

A Disk Drive allows to user to save and read specific files by NAME, and more importantly allows this operation to be completed in a fraction of the time that is required by tape. With the use of Disk Menus any program from a disk can be selected and RUN by the touch of 1 key. Disk also allows the use of several new commands and facilities not available with tape, along with access to the more advanced type programs such as Word Processors, Multiplan, TI-FORTH etc..

In order to equip your system for disk operation an Expansion Box, a Disk Controller Card, and Disk Drive are needed, costing some \$700.00. To really utilize the system fully the purchase of a 32 K Memory Card is also required, as the programs requiring Disk usually require memory expansion, adding a further \$200.00 to the system. Dispite this expense, the investment of a Disk Drive is well and truly worth it. The TI system is not expensive when compared with other brands of computers generally.

It is also a case of:-
1 is better than none,
2 is better than one,
3 is pure luxury.

Currently most Drives fitted to the TI-99/4A system are capable of accessing double density, but the TI Controller does not allow this. This situation will soon change with 1 US. company manufacturing a Double Sided/Double Density (DS/DD) version now-see News Briefs this issue.

TI do not manufacture their own Disk Drives or Controllers. TI put their names onto units manufactured by others, with the Disk Controller system being made by Western Digital, there being only 2 or 3 different systems used World wide. The Disk Drives fitted are usually either a Shugart model 400L or a MPI B-51. The MPI B-51 Drive is a SS/DD Drive, but I believe the Shugart is only SS/SD.

Now, some of our readers have thought they could purchase a second Drive, or even a first one cheap, and have found out to their dismay that "All that glitters is not gold". Some examples that have come to hand are:-

***"Help Wanted.

If any member could help.....just hooked up the second drive with power supply to my disk

controller card...and to my surprise it works fine but.....

The DSK2 used was a "TANDY" cat. No-26-1161B which is in actual fact a Shugart 400, the same part number as fitted to my T.I. box originally as DSK1. The TANDY drive will write and read without any worries....but I can only use 90% of the capacity of any diskette used in the TANDY drive. to use the TANDY drive without an error stopping initialization I must select 35 tracks.....324 sectors."

Source:Tasmanian T.I. User Group Newsletter, March/April 1984, article by Co-ordinator.

Problem: A 35 Track system is not capable of using 40 Tracks. Be careful buying a Disk Drive as there are usually several variations of 1 basic model.

***"I bought a cheap disk drive from Amust Computer Corp."

Source:Melbourne User Group Member-not tried system at stage spoken to.

Problem: This Drive is for the Apple Computer, and whilst it will run, he now has own "Private" disk system unusable to any one else.

***"It all started with an ad for dual 5 1/4 "Digital" drives for only \$225. It was almost to good to be true. My wife only agreed after reading about the return policy and comparing the price with similar products. The drives arrived in less than a week. They were brand new still in the Digital box. They were beautiful.

I also changed termination and some switches. With this temporary set-up I did some testing. Bad news. I could read and write but only short programs. I wrote a letter to the seller according to their return policy. I heard nothing for weeks then decided to call. I guess I'm not the only one in this situation because the guy at the other end said he had a fix and would send me information. It involved installing a pot on the board. An electronically inclined friend took the letter and drives and preformed the minor surgery. I made a proper cable with some help of Radio Shack..... I put it all back together, adjusted the pots and it was HAPPY ENDING TIME."

Disk Drives TEAC-FD-50A-03.

Source:Paul Yorke, Florida

Problem: Not disclosed in his letter, may have been configured for 35 Tracks.

***"I bought a dual disk drive set up with my expansion box, but I can not read any of TI's disk programs, although I can read any programs I save."

Source:School Teacher in Vic..

Problem: Fitted with 80 Track models.

TI DISK CONTROLLER

In order to operate a Disk Drive system a Disk Controller is required to feed instructions and format disks that can then be used to record/read information. A Floppy Disk, 5 1/4" size, is a circular magnetic medium, not unlike recording tape, that allows the recording/erasing/reading of data on its surface which is divided into divisions called sectors, ie. they form a pie shaped segment in the circle. The recording heads are set very accurately and can locate a given sector within micro-seconds. The magnetic disk is enclosed within a square board cover for protection, principally from dust, fingers, etc.

Prior to using a Disk it has to be formatted by the controller. On some systems your purchase disks already formatted into so many sectors, but with the TI system the Disk Manager Module does the formatting for you. This means that you must purchase "soft sectored" disks, ie. those that can be formatted by the controller. The Disk Manager 1 Module can only handle SS/SD disks, dividing the disk normally into 358 sectors usable for storing information. Each sector is capable of storing a maximum of 256 bytes. With Disk Manager 2 Module DS/DD disks can be formatted, BUT the present Controller is only capable of handling SD (Single Density). With a Double Sided Drive and Disk 718 sectors can be used.

The TI system uses 40 Track drives, that is they have 40 tracks per inch for storing data. Some of the early drives used 35 tracks only, whilst the majority of drives today use 80 tracks. Most drives rotate at 300 RPM, which is required for the TI system, and there are various other specifications used for track to track access time etc..

Although the TI systems requires a 40 track drive, it is possible to use others, however they will NOT BE compatible with any one else's disks but your own. In order to read some one else's disk, a TI program, eg. TI-WRITER you must have a compatible drive. Most Drive manufacturers have several different types of drives using the same basic model number so that you must be careful that the right type is specified.

You can perhaps now gleam what the problems were with the drives owners had above. Two of these were 80 track drives (the one sold by Amust for the Apple and the Schools Twin drives), one only being a 35 track version, whilst I'm not sure of the problem of our Florida friends.

As you can see from the above you can not expect to be able to connect any disk drive to your computer and have it FULLY COMPATABLE with your system. If care is taken, and the correct drives are used then no problems are encountered.

TI DISK DRIVE

TI supply single sided drives only for the expansion system, although some are capable of double density. If you have a choice of buying a disk drive then without a doubt the only one to purchase is a double sided/double density one. For a short time it was possible to purchase a TI Controller Card by itself, but as no one was buying the TI Disk Drive Card the policy was changed to sell the controller only with the TI drive. The TI Drive is very expensive for what it is, and Softex has sold several DS/DD drives for less than TI's price, thereby giving the owner double the storage capacity on one disk straight away. A Double Sided Drive can use either single sided or double sided disks, with the only difference being the initialization of the disk. A single sided drive CAN NOT read/write to a disk that has been initialized for double side.

Disks are either sold as single sided or double sided, but as most users know you can use single sided disks quite successfully as double sided ones, either in a double sided drive or by flipping the disk over having two separate sides in a single sided drive.

With the TI system a total of 3 separate drives can be used; and if you process the Disk Manager 2 Module the additional drives can be either single sided or double sided, or any combination of both. It is possible to fit two slim line drives into the Expansion Box, but not without the 12 volt power supply being changed as the current drain with 2 drives exceeds the amperage of the power supply. TI has warned the public particularly in USA that the fitting of dual slim line drives voided the warranty. If you contemplate purchasing a Twin slim line system from a retailer then make sure that modifications have been made to the power supply in the Box.



SOFTX GOODIES

AMUST-80DT DOT MATRIX PRINTER

Centronics with optional RS232C Interface. Bi-directional, 80 cps., Tractor and friction feed. Max. width 10". Chars/line 40,68,80,136. Fonts include expanded print, condensed, superscript, subscript, emphasized or double strike print in ordinary or italics mode.

Special Price \$375.00. (Centronics)

AMUST P-88 DOT MATRIX PRINTER

All the features of the 80-DT with some extras, better built, one of the best Matrix printers made.

Price: \$500.00 Centronics version

Cables to suit both the above Printers are **\$40.00** ea.

RS232 card extra **\$125.00.**

AMUST 120 SUPER PRINTER

A new model to be released June, similar to DT-80 in features, but with 100 cps. speed, and more attractive case. Also 9 x 11 Dot Matrix, with max. of 11" paper width.

Price: \$430.00 Centronics version

BROTHER HR-15

Excellent, ready to go Daisy Wheel Printer, used to prepare this magazine, see article "Quality Printing for the TI-99/4A.

Special Price: \$770.00 (C. I/F)
RS232 version \$810.00

Also new model Brother HR-25, same features as HR-15, except speed is 25 cps.

Softex Price: \$1220.00 (C. I/F)
\$1270.00 (RS232 version)

Also agents for:

Two Amust Daisy Wheel and C-ito M8510 and M1550 printers.

Phone or write to us about prices - we're hard to beat!

Datalife Disks

5 1/4 inch, single sided, double density disks, Datalife Brand

\$40.00 per box of 10, includes postage.

TAPES.

C-62 Cassette tapes, reputable brand.

\$1.20 ea., discount for large orders. Postage extra.

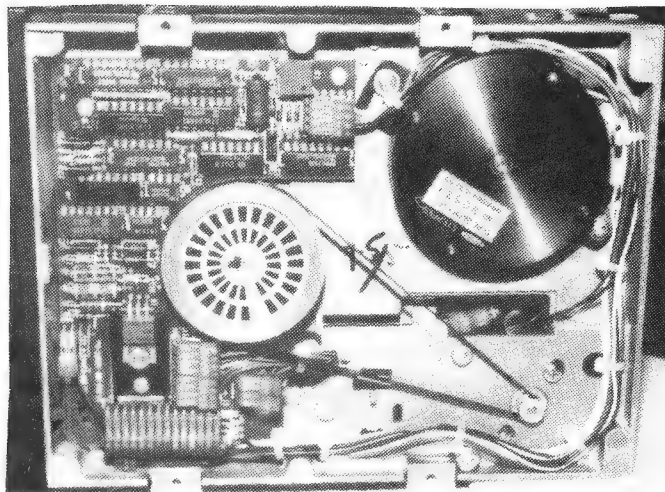
DISK DRIVES.

Tandon and MPI Brands, Double Sided/Double Density Drives. Both fully compatible with the TI-99/4A Expansion System. Can be mounted in Expansion Box, no Modifications necessary. (Double Density at moment not available using Disk Controller Card). Drives can also be supplied with independent power supplies for second or third Disk Drive on system. Slimline Drives coming next month, but modifications are required to power supply in Expansion System Box.

Softex Prices:

\$386.00 for full size DS/DD Drives.
\$510.00 for DS/DD Drive, external power supply plus cable for 2nd. drive. (Cable with provision for 3 Drives \$15.00 extra.).

Check for Slimline prices/availability.



SOFTEX GOODIES

SOFTEX SOFTWARE

SOFTEX now has available the following Software on Disk and Tape for your purchase.

Financial Advisor Programs (see article else-where in this magazine) for \$12.00 -Disk only.

SOFTEX Programs: All programs from Issue No. 1 to 3.
\$15.00 for Disk, \$12.00 for tape.

More coming soon, including a great Assembly Language game on tape for use with Extended Basic.

BOOKS

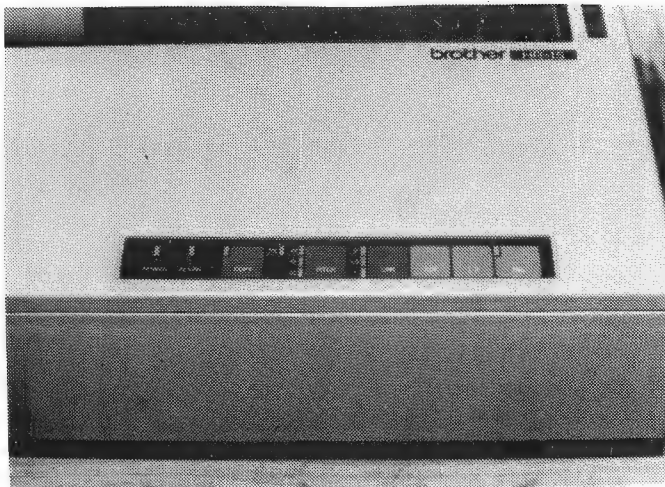
We stock the following titles:

"Programs for the TI Home Computer"
Contains 50 programs for you to type in.
\$24.00 plus \$2.00 post/packaging.

"Introduction to Assembly Language for the TI Home Computer"

Takes the reader from Basic to the Editor/Assembler manual.
\$25.00 plus \$2.00 post/packaging.

If not in stock at time of ordering, order will be filled on receipt of next shipment, usually within 2 weeks.



BMC GREEN SCREENS

BMC Green Screens and monitor stands are available for \$220.00.

MODULAR DISKETTE BOXES

An economical storage solution for Disks, these beige coloured plastic containers store 10 5 1/4 in. disks, and can be stacked either horizontally or vertically. Purchase additional boxes as required, as they stack together. Great for a gift.

Price: \$6.00 ea. plus \$1.00 postage.

SHUTTLE MODEM

A Telecom approved Modem including an approved Digital telephone with auto redial and mute button. Can be plugged into any standard telephone wall socket, ready to go.
Price \$266.00.

Also stock Cables, RS232C and Centronics for printers, Carbon Ribbons, etc..

All Printers sold will be checked prior shipping, allowing use immediately on receipt.

Watch for more goods coming soon.

NOTE: Freight/Postage extra.

Order by mail or telephone;

SOFTEX P/L

59 Landstrom Quadrant
Kilsyth. 3137.
Tel: (03) 7258178

Prices subject to change

Warranty service available

With the Expansion system two or even three (3 only if no internal drive fitted) external drives can be fitted with their own independant power supplies. Each drive has a "shunt" fitted which selects the correct drive, with DSK0 of the drive being DSK1 of the TI system. A terminating resister is fitted to disk drives and must be removed from all but the last drive fitted. With the second or third drive fitted, the process of copying disks then becomes automatic with the Disk Manager Module making life easier. Greater flexibility and capacity is available with a multiple drive system.

To fit external Disk Drives use the cable supplied with the Disk Controller, pushing this onto the plug at the rear of the Controller, fitting the piece of circuit board in the other end, and then connecting the Disk Drive cable onto the other end. The cable running to the Disk Drive is a straight pin for pin (34 Pins) connection cable. An external power supply can be obtained from various electronic component stores, to which the bare Disk Drive is connected by screws. In the case of slim line drives, power supplies can be purchased with power cabling for the two Drives that can be fitted into the one case.

Several different brands of Disk Drives are suitable for the TI-99/4A, the type you select

being a choice of price or Quality. We at SOFTEX use MPI, Tandon, and Chinon Drives. We know these are fully compatible to the TI-99/4A system. Others have used Teac, Siemens, Mitsubishi, etc..

Shunt Positions for extra Drives.

The shunts normally fitted to Disk Drives are rather flimsy and you would do better by replacing them with a 4/6/8 position Dip Switch that fits directly into the IC socket. Then it is only a matter of switching the correct switches on so that the correct Drive works when asked. Normally only 2 contacts need to be made, one labelled HS and the other being the Disk Drive number where:-

DSK0 = DSK1
DSK1 = DSK2
DSK2 = DSK3
DSK3 not used.

I guess the best news regarding Disk Drives is that they are finally beginning to drop in price, so in time more of you will be able to afford them. Remember also the the Drives used with the TI system can be used with others, eg. a DS/DD drive could be used in a IBM computer.

TALKING COMPUTERS

94 ANZAC HIGHWAY, EVERARD PARK, SOUTH AUSTRALIA 5035

TELEPHONE: (08) 297 1919 - (08) 297 2955

***** AN IMPORTANT MESSAGE TO ALL TI USERS *****

TALKING COMPUTERS now have one of the largest ranges of soft/hardware for the TI 99/4A computer. All mail-order customers will receive 10% discount on all TI product lines, including free postage (software only). Phone or write for free price list. Stand-alone peripherals soon to be available. Also best prices for TI Professional, Sanyo MBC-555, Sharp MZ-700, & Commodore 64.

TI BASIC PROGRAMS

EXTENDED BASIC ONLY

Hangman & Maths Learn	9.50	City Attack (plus"CROAKER")	19.50
Blackjack & Poker Machine	9.50	Penfriend (Wordprocessor)	14.50
Maze & Repeat	9.50	Mars Lander	9.50
Music maker & Decoder	9.50	Lunar Lander	9.50
Searcher & Tictactoe	9.50	Frog trail	9.50
Home File System	9.50	Home Budget	14.50
Starsec & Aliens	9.50	Texas Kong	14.50

APRIL SPECIALS:

Amust printers	349.00	Datalife disks	4.00
Sanyo MBC-555: Twin disc drive, 128k RAM, IBM compatable	1895.00		
Texas Instruments Professional Computer IBM compatable	5300.00		
Sanple typewriter/printers (daisy wheel)	799.00		
Texas Instruments 850, 855 printers 150 c.p.s.	P.O.A.		

***** STOP PRESS *****

AXIOM Parallax (TI 99/4A centronics printer port)	199.00
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MANUFACTURERS OF COMPUTER SOFTWARE

SUPPLIERS OF COMPUTERS, PRINTERS, PERIPHERALS FOR HOME & OFFICE

AUTO-RUN PROGRAM

By Peter Bodey

Those readers who have Disk Drives and Extended Basic will find the following program very useful. There are several "RUN" programs about, that execute on selecting Extended Basic, providing the Run program is saved as "LOAD".

```

100 CALL CLEAR :: DISPLAY AT
(12,1):"CATALOG? Y/N: Y" ::
ACCEPT AT(12,15)SIZE(-1):R$
:: IF R$="Y" OR R$="y" THEN
110 ELSE END
110 CALL CLEAR :: DISPLAY AT
(10,2)BEEP:"Enter DSK No. D
SK1." :: ACCEPT AT(10,20)SIZ
E(-1)VALIDATE("123"):A$
120 IF A$="1" THEN A$="DSK1.
"
130 IF A$="2" THEN A$="DSK2.
"
140 IF A$="3" THEN A$="DSK3.
"
150 K=0 :: CALL CLEAR :: CAL
L SCREEN(6):: DISPLAY AT(12,
1):"LOADING CATALOG..." :: D
ISPLAY AT(16,9):"PASS: ";K :
: DIM C$(128),P$(128),S(128)
160 GOTO 170 :: CALL INIT ::
CALL KEY :: CALL LOAD :: CA
LL PEEK :: D$ :: E :: F :: G
:: I :: J :: K :: X :: !@P-
170 OPEN #1:A$,INPUT,RELATI
VE,INTERNAL :: INPUT #1:C$(0
),E,F,S(0):: I=1
180 INPUT #1:D$,E,F,G :: DIS
PLAY AT(16,15):K :: K=K+1 ::
IF LEN(D$)=0 THEN 220
190 IF E<0 THEN P$(I)="P"
200 IF ABS(E)<4 THEN P$(I)="
D"
210 C$(I)=D$ :: S(I)=F :: I=
I+1 :: GOTO 180
220 CLOSE #1
230 J,E=1 :: X=0
240 CALL CLEAR :: CALL SCREE
N(11):: DISPLAY AT(1,1):"DIS
K: ";C$(0);" *SPACE";S(0);"*
250 DISPLAY AT(6,1):"PRESS":
"LETTER":"TO RUN." :: DISPLA
Y AT(12,1):"1=EXIT":"2=DELET
E":"3=PRINT" :: IF I>20 THEN
DISPLAY AT(15,1):"4=NEXT"
260 DISPLAY AT(E+2,11):CHR$(
64+E);" ";C$(J):: DISPLAY AT
(E+2,24)SIZE(-28):S(J):: DIS
PLAY AT(E+2,28):P$(J)
270 J=J+1 :: E=E+1 :: IF J>2
0+X OR J=I THEN DISPLAY AT(2
3,1):"SELECT" :: GOTO 280 EL
SE 260
280 CALL KEY(0,K,G):: IF G<>
0 THEN IF K<49 OR K>84 OR(K
>52 AND K<65)THEN 280 ELSE 2
90 ELSE 280
290 IF K=49 THEN CALL CLEAR
:: END
300 IF K=51 THEN 310 ELSE 39

```

This one has some extra features that most don't, which include the following:-

- * Can select any one of three Disk Drives for listing.
- * Allows up to 128 File names per Disk, which are displayed in groups of 20.
- * Inclusion of a print option for catalog purposes.

DISK NAME: SOFTEX21
FREE SPACE= 36

FILENAME	SIZE
ADVERT	10 D
BOOKREV1	24 D
DEALPRICE	4 D
DISKDRIVES	53 D
EDIT3	16 D
EDITA1	33
EDITA2	6
EP44	28 D
ERATA1	11 D
FAPNOTES	4 D
FORMA1	33
FORMA2	15
FORTHINTRO	35 D
GROUPS3	29 D
HEADMAY	8 D
IMAGIC	19 D
LETTER2	18 D
LOADDET	4 D
LOADPGM	14 D
MAILISTP	54 D
MARTMAY	6 D
MLDET	8 D
MODEM	42 D
NAVARONE3	8 D
NAVPROD	25 D
NAVPROD1	5 D
OUTSTOCK	4 D
PAGE2ISS3	13 D
PAGENOS3	6 D
ROSTER2	8 D
SOFTCOMP	10 D
SOFTEXGOOD	19 D
SPECEP44	15 D
TICTACDET	4 D
TRACERNOTE	12 D
TURBORACER	34 D
UGARTICLES	4 D
USERBEST1	34 D
USERGPTHD	3 D
WANTED3	4 D

Sample Print Out
D - Data files

```

310 CALL CLEAR :: DISPLAY AT
(12,1):"ENTER PRINTER DEVICE
NAME:" :: DISPLAY AT(14,1)
:"PIO" :: ACCEPT AT(14,1)SIZ
E(-20):D$
320 OPEN #5:D$,OUTPUT :: J=1
330 R$="-----
"
340 PRINT #5:"DISK NAME: ";C
$(0):: PRINT #5:" FREE SPAC
E= ";S(0):: PRINT #5:R$: :
: R$="-----
"
350 PRINT #5:"FILENAME";TAB(
13);"SIZE" :: PRINT #5:R$: :
360 PRINT #5:C$(J);TAB(12);S
(J);TAB(16);P$(J)
370 J=J+1 :: IF J=I THEN 380
ELSE 360
380 CALL CLEAR :: CLOSE #5 :
: GOTO 230
390 IF K<>50 THEN 440 ELSE D
ISPLAY AT(23,1):"SELECT" ::
CALL SCREEN(7)
400 CALL KEY(0,K,G):: IF G<>
0 THEN IF K+X-64>I THEN 240
ELSE 410 ELSE 400
410 IF K<65 OR K>63+E THEN 3
90
420 DISPLAY AT(23,1):"DELETE
":C$(K+X-64):: DISPLAY AT(24
,14)SIZE(7):"CHECK N" :: ACC
EPT AT(24,20)SIZE(-1):R$ ::
IF R$<>"Y" THEN 230
430 DELETE A$&C$(K+X-64):: R
UN 150
440 IF K=52 THEN IF I<21 THE
N 280 ELSE 450 :: ELSE 460
450 IF J>=I THEN 230 ELSE X=
X+20 :: E=1 :: GOTO 240
460 IF I<=K+X-64 THEN 280
470 IF P$(K+X-64)<>"D" THEN
500 ELSE CALL SCREEN(7):: DI
SPLAY AT(23,1):"CANNOT RUN -
DATA FILE"
480 DISPLAY AT(24,1):"*PRESS
ANY KEY TO CONTINUE*"
490 CALL KEY(0,F,G):: IF G=0
THEN 490 ELSE 230
500 DISPLAY AT(23,1):"RUN:":
C$(K+X-64)
510 CALL INIT :: CALL PEEK(-
31952,E,F):: CALL PEEK(E*256
+F-65534,E,F):: G=E*256+F-65
534 :: R$=A$&C$(K+X-64)
520 CALL LOAD(G,LEN(R$)):: F
OR I=1 TO LEN(R$):: CALL LOA
D(G+I,ASC(EG$(R$,I,1))) ::
NEXT I :: CALL LOAD(G+I,0)
530 RUN "A$&ABCDEFGHJIJ"

```

Widgets, Disk Fixers, Horoscope Maker, Homework Helper, Super Sort

SOFTEX is proud to have available the following excellent Software from Navarone Industries of Sunnyvale, California.

WIDGET (ALSO KNOWN AS CARTRIDGE EXPANDER)

Requirements

Basic Computer.

Price: \$60.00 from SOFTEX

This would have to be the most useful device to come along for the TI-99/4A computer. It allows up to 3 Modules to be slotted into the board, which fits into the normal cartridge slot, saving wear and tear on this important area. As outlined in SOFTEX No. 2 the greatest cause for "Lock-up" on our computer is due to movement and the subsequent bad contact with the cartridge plug and the main circuit board. This eliminates all these problems as Modules are plugged in vertically to the Expander Board. A reset button and selector switch (1, 2, or 3) allows rapid change from Module to Module.

A secondary benefit is that the way it is structured, the Modules no longer become hot from contact with the computer. This heat has also been responsible for increasing or causing "Lock-up". Speaking to happy users who previously had "Lock-up" problems they have found that this has cured their problem.

Likes:

1. Cure from the cursed "Lock-up".
2. Keeps Modules cool.
3. The ability to be able to switch from Module to Module quickly (1 Module can only be accessed at a time).

Dislikes:

1. The encroaching of the modules against the right hand side of the Key board (more due to typing technique than anything else, not found to be a problem by myself).

Overall Impressions:

A must for every TI-99/4A computer owner who wants to enjoy the maximum of use from his computer.

This program can be used by itself or be part of the DBM series (others DBM Entry, DBM Reports). All Data has to be arranged with a Fixed number of bytes for each Field, with details of how to convert your files to this format in the instructions.

Likes:

1. A powerful utility program that allows you to sort your records FAST.
2. Ease of use.

Dislikes:

1. Requirement for 32 K memory and Disk system.
2. Limited to using FIXED length Data.

Overall Impressions:

A very useful utility, particularly for those programmers looking for use of Assembly Language sort routine in their program.

ASTROLOGY (HOROSCOPE MAKER)

Requirements

Extended Basic
32 K Memory Expansion
1 Disk Drive
80 Column Printer

Price: \$70.00 (Disk) from SOFTEX

A powerful program that produces horoscope charts in 9 House systems (Meridian, Regiomontanus, Porphyry, Equal House, Morinus, Koch Houses, Tropocentric, Campanus, Placidus). The program calculates the precise location of each planet automatically.

An example of the Meridian chart is shown on the back cover of this issue.

Likes:

1. Easy to use and powerful program for the professional.

Overall Impressions:

An excellent program for those into Astrology (unfortunately, it is double Dutch to me).

DBM SORT UTILITY

Requirements

32 K Memory Expansion
1 Disk Drive

Price: \$60.00 (Cartridge) from SOFTEX

This Cartridge contains a Assembly Language program to sort Data at high speed for large files, limited only by Disk space available ($\frac{1}{2}$ of Disk capacity). Program is Menu driven, it can arrange files in ascending, or descending order with up to six nested keys.

DISK FIXER

Requirements

32 K Memory Expansion

1 Disk Drive

Price: \$60.00 (Cartridge) from SOFTEX

With this Module you can access each byte on any sector of your Disk, obtain a print out of the actual "binary" contents, change any byte or move data from one sector to another. You can find the sector where a specified character string occurs with the search disk option.

Disk Fixer is ideal for fixing blown directories, improperly closed files, and recovering data from disks otherwise inaccessible.

Sample print outs of sectors from a Disk accompanies this article.

Likes:

1. Ability to repair otherwise un-usable programs on Disks.
2. A chance to learn more about the internal workings of the TI-99/4A computer.

Dislikes:

1. Does require good knowledge of assembly to fully utilize (understandably so).

Overall Impressions:

In the hands of a experienced programmer, a very powerful tool.

NAVARONE IND. *** DISK FIXER V2.0 ** SECTOR DUMP SECTOR ADDRESS 0085
ADDR = 0 1 2 3 4 5 6 7 8 9 A B C D E F INTERPRETED

0000 =	2020	2020	2044	5249	5645	2C20	2020	2020		DRIVE,
0010 =	2020	2020	4752	4545	4E53	424F	524F	4748		GREENSBOROUGH
0020 =	411E	5843	0423	2023	0043	034F	1F20	0040	A*XC*#-#*C*O* *@	
0030 =	01FF	0040	522E	4045	5256	4520	2042	4552	***MR.MERVE BER	
0040 =	4740	414E	2C20	2020	2020	2020	3639	3520	GMAN,	695
0050 =	532E	4041	4449	534F	4E20	2050	4153	4144	S.MADISON PASAD	
0060 =	454E	4120	2020	2020	2020	4341	4C49	464F	ENA CALIFO	
0070 =	524E	4941	2E20	FF00	00FF	0000	0000	00FF	RNIA. *****	
0080 =	0000	0000	0040	01FF	0040	522E	444F	5547	*****@**MR.DOUG	
0090 =	4C41	5342	4552	5259	2C20	2020	2020	2020	LASBERRY,	
00A0 =	2020	3836	2041	4341	4349	4120	2020	2020	86 ACACIA	
00B0 =	2053	5452	4545	542C	2020	2020	2020	2020	STREET,	
00C0 =	4054	2E47	4140	4249	4552	2E20	4134	5A43	MT.GAMBIER. A4ZC	
00D0 =	5719	3A42	0043	5719	2A39	0040	0140	0140	W*B*C*#*#*#*#*#	
00E0 =	522E	4941	4E20	2020	2042	4554	5453	2C20	R.IAN BETTS,	
00F0 =	2020	2020	2020	2020	504F	2042	4F58	2034	PO BOX 4	

NAVARONE IND. *** DISK FIXER V2.0 ** SECTOR DUMP SECTOR ADDRESS 0086
ADDR = 0 1 2 3 4 5 6 7 8 9 A B C D E F INTERPRETED

0000 =	3520	2020	2020	20FF	0000	0000	0000	0000	5	*****
0010 =	0000	0000	0000	524F	4053	4559	2E20	2020		*****ROMSEY.
0020 =	2020	4122	2243	3610	3403	00FF	0000	0000		A***CG*4*****
0030 =	0040	0140	0140	522E	4745	4F52	4745	2042	*@*@*MR.GEORGE B	
0040 =	4952	442C	2020	2020	2020	2020	2020	3120	IRD,	1
0050 =	4154	484F	4C20	2020	2020	2020	2041	5645	ATHOL	AVE
0060 =	4E55	452C	2020	2020	2020	2020	4255	4E44	NUE,	BUND
0070 =	4F4F	5241	2020	2020	411E	5343	0443	160B	ODRA	A*SC*C**
0080 =	0043	0356	353D	0040	0140	0140	522E	524F	*C*V5=*@*@*MR.RO	
0090 =	444E	4559	2042	4952	442C	2020	2020	2020	DNEY BIRD,	
00A0 =	2020	2020	3231	2057	494C	4C53	2020	2020	21 WILLS	
00B0 =	2020	2041	5645	4E55	452C	2020	2020	2020	AVENUE,	
00C0 =	2020	4054	2E57	4156	4552	4C45	5920	411F	MT.WAVERLEY A*	
00D0 =	3143	0220	4845	0043	0529	4850	0040	01FF	1C* HE*C*)H]*@**	
00E0 =	0040	522E	5354	4550	4845	4E42	4F44	4559	*MR.STEPHENBODEY	
00F0 =	2C20	2020	2020	2020	2020	3538	2047	4154	,	58 GAT

NAVARONE IND. *** DISK FIXER V2.0 ** SECTOR DUMP SECTOR ADDRESS 0087
ADDR = 0 1 2 3 4 5 6 7 8 9 A B C D E F INTERPRETED

0000 =	5449	4E41	5241	2020	2041	5645	4E55	452C	TINARA	AVENUE,
0010 =	2020	2020	2020	2020	4652	414E	4853	544F		FRANKSTO
0020 =	4E20	2020	411F	6343	0759	284E	00FF	0000	N	A*c*Y(N***
0030 =	0000	0040	0140	0140	522E	5045	5445	5220	***@*MR.PETER	
0040 =	2042	4F54	484F	462C	2020	2020	2020	2020	BOTHOF,	
0050 =	3338	2056	4153	4559	2020	2020	2020	2053	38 VASEY	S
0060 =	5452	4545	542C	2020	2020	2020	2020	452E	TREET,	E.
0070 =	4245	4E54	4C45	4947	4820	411F	4143	0546	BENTLEIGH A*AC*F	
0080 =	2024	00FF	0000	0000	0040	01FF	0040	522E	-\$*****@**MR.	
0090 =	524F	4245	5254	2042	4F54	544C	452C	2020	ROBERT BOTTLE,	
00A0 =	2020	2020	2020	3120	5745	4C48	414D	2020	1 WELHAM	
00B0 =	2020	2020	2052	4F41	442C	2020	2020	2020	ROAD,	
00C0 =	2020	2020	404F	4F52	4F4F	4C42	4152	4820	MOOROOLBARK	
00D0 =	411F	2643	0719	304E	0043	060F	5349	0040	A*&C**=N*C**SI*@	
00E0 =	01FF	0040	522E	524F	4245	5254	2042	4F57	***MR.ROBERT BOW	
00F0 =	4C41	4E44	2C20	2020	2020	2020	3139	2043	LAND,	19 C



HOMEWORK HELPER

Requirements

- 32 K Memory Expansion
- 1 Disk Drive

Price: \$60.00 (Cartridge) from SOFTEX

This program on Module is designed for Students to store records of assignments, enter Text for Worksheets and Book Reports. It also acts as a Mini Word Processor, with on screen Editing, a 80 column display (in 3 segments with no overlap). See example of output for Assignments and Bookreport.

On entering the program you are confronted with the following Menu:-

1. Configure
2. Personalize
3. Curriculum
4. Assignments
5. Worksheets
6. Bookreport
7. Typewriter

When you finish with one area you have the choice of:-

Quit Print Redo Save

All Data is stored on Disk automatically on selection of Save, with the program assigning a Disk name to it, eg.

HWH/DAT1

HWH/DAT2

The line you are working on is highlighted with color, a nice feature.

The program makes use of Control functions for Deleting, Inserting, Erasing, Clear text field, Next Window, Previous Page, Backspace, and Quit editing.

Likes:

1. Ease of use, been designed for young people.
2. Use of highlighting with text.

Dislikes:

1. Requirement for 32 K Memory and Disk Drive, limits use of program to those with full system.
2. Inability to word wrap.

Overall Impressions:

A good program for use by the younger generation, without the complexity of a full fledged word processor, but limited in expection by requirement of full system.

HOMEWORK HELPER
BOOKREPORT

Doug Thomas
59 Landstrom Quadrant
Kilsyth. V. 3137.

Kilsyth Primary School
Dublin Road,
Kilsyth. V. 3137.

Friday 18 May 1984

BOOKREPORT

TITLE:Beginners Basic
AUTHOR:TI Lubbock
PUBLISHER:U/K
COMMENTS:Source for all Data for TI-9
:9/4A Computer, excellent, ea
:sily understood

Commences with the basic commands available for the computer and then runs through the various functions and commands available with the computer.

This programs uses scrolling to give you 80 columns across with a margin guide on top with auto wrapping, although this splits the word on the screen.

HOMEWORK HELPER
WORKSHEETS

Doug Thomas
59 Landstrom Quadrant
Kilsyth. V. 3137.

Kilsyth Primary School
Dublin Road,
Kilsyth. V. 3137.

Friday 18 May 1984

WORKSHEETS

ASSIGNMENT: Basic Statements

News Briefs

* Three new versions of FORTH are available from Trimur Developments, P.O. Box 836, Canberra City, A.C.T. 2601. The following are the versions available:-

Mini-Memory: Requires only Mini-memory module and cassette recorder. A total of over 140 commands are included, price \$20.00.

Expansion Memory: Includes faster compiler, better editor, and more commands. Can be either cassette or disk based, but Mini-memory or Editor Assembler module is required. Price: \$20.00.

TI-FORTH (from Ext. Basic): Disk with code that can be loaded using TI Ext. Basic module. Price: \$10.00.

All prices include postage within Australia, and include Documentation, except for the later.

* As advertised in this issue, Talking Computers of Adelaide are importing the AXIOM Parallax, which is a stand alone centronics (1 only) printer port for \$199.00, post paid. Supplies are in demand, and up to 6 weeks may have to be allowed for delivery, depending on the stock levels held at the time. For those readers who do not want to purchase a Box, this is an answer to your problem.

Review: Shuttle 300 Data Modem

By Wayne Worlidge and Doug Thomas

MODEMS

The word "modem" is an abbreviation of "modulator-demodulator" ; to quote one definition, "a device used to convert machine readable code into symbols that can be transmitted over communication lines, and vice-versa."

Why Have a Modem?

A modem enables the Home Computer User, provided he has the necessary RS232 interface, to transmit or receive data over the telephone system. There are various reasons one may wish to do this - transfer of programs or files between Users, and communication with a database being the most common.

For instance, SOFTEX is printed at one location, but articles for it are written at several. When the articles are complete, (i.e. files of text for TI-Writer), these files are transmitted down the line to Doug, who edits and prints out the text. It is also possible, we believe, to transmit to a Printer who could feed the files into his computerised typesetter, and print out the magazine. However we haven't quite reached that level of sophistication as yet.

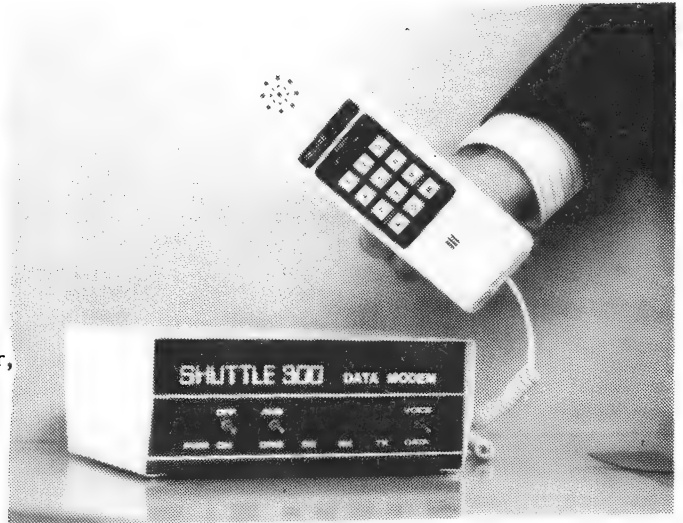
Data can be transfered in either of two ways with the TI-99/4A computer.

(a) Using the Terminal Emulator II (TE-II) module. This has a program built in to communicate with other data sources/computers, and allows the transfer of file to file from disk.

(b) Using the "OLD" and "SAVE" commands the contents of one computer can be transferred directly to another.

It may be desirable to communicate with a database. Databases exist, mainly in the U.S.A., and provide information about just about anything. Research departments in business are using them more and more.

Databases exist in Australia, too. "The Australian Beginning" and MICOM are readily available at modest cost. The Perth TI Users Group already have a Bulletin Board operating, with Sydney Users Group planning to start one just as soon as they can obtain the appropriate software to operate this. Overseas databases, while very comprehensive, can be costly to access, though with a little practice, one can enter and leave them very rapidly, thereby minimising cost.



Acoustic Couplers

Modems, like a lot of other Home Computer components, have developed remarkably in the last few years.

The acoustic coupler, erroneously called a modem initially, was the first practical system for the small micro user. The only other alternative was to hire a Data Modem from Telecom at great cost.

An Acoustic Coupler consists of a small unit which is connected to the RS232 port of the computer. There are two rubber cups fitted on top which hold the earpiece and mouthpiece of the telephone.

The main advantage of Acoustic Couplers is that they do not require anything extra, apart from a normal phone headset, making it ideal for portable applications. They can suffer from audible noise interference, with it being important that the two suction cups form a good seal with the headset.

Although most acoustic couplers look like they should be used with the telephone headset placed facing down, this is incorrect. They should be laid on their side so that the carbon granules in the headset do not lose their effectiveness. If not placed on their side, contact will be lost after about 10 minutes.

Modems

The units now known generally as Modems, are a small box which connects directly into the telephone line, saving any acoustic link and

possible audible interference. This gives modems far greater reliability, with less prospects for "Drop-outs". Ordinary telephone lines are subject to various interferences at times, which will cause havoc to any Data signal. If you are unfortunate enough to live in a poor signal area you can complain to Telecom, who will try to correct the problem. If this is not successful, then you may have to consider the fitting of a special data line for your modem. Another reason for considering a Data line would be if you proposed to transfer data in excess of 300 Baud, eg. 1200 Baud, as faster speeds require better lines.

By law in Australia all acoustic couplers and modems are required to have been tested and approved by Telecom. Initially all were required to operate from 6 volts DC., although models can now be approved for 240 volt operation, providing the power supply is properly isolated.

Modems have two toggle switches on the front, one for switching between telephone and modem, the other for selecting between originate/answer mode. When communicating with another modem, the other must be set to the opposite setting for them to correctly work.

A series of red LED lights are also incorporated on the front panel to indicate power switched on and a carrier detect signal, with the better models having LEDS for receiving, transmitting, etc..

The first of the cheaper modems released (Dick Smith's), had to be wired in by Telecom costing the user a further \$50.00 to \$60.00 for the supply of a special wall socket, making these more or less a permanent installation. You also need a wall socket nearby your computer to connect your modem in.

With the later models you no longer need special installation, and only need a telephone wall socket nearby to plug into. Modems such as the Shuttle 300 Data Modem come equipped with their own telephone attached.

Data transfer for the TI-99/4A is at 300 Baud normally ($\frac{1}{2}$ the speed of a cassette) which seems very slow to a disk user. When data is being sent on a telephone line, a high pitched tone is heard.

SHUTTLE 300 DATA MODEM

This is one of the best Modems seen (Cicada 300 Data Modem is almost identical) and costs \$266.00, coming complete with a digital dialing telephone with auto redial and last number recall. It comes ready to connect direct to the telephone wall plug, requiring no special installation. The only other thing required is to connect the Modem to a properly wired RS232 cable (see Data Page), plug in your TE-II Module and away you go.

This modem comes equipped with LED displays for power, carrier detect, data received, and data transmitted. When transferring data you can monitor what is happening by the constant lighting of the LEDS.

The digital dialing telephone the modem comes equipped with, is the best and clearest telephone I've used, and about the only fault on the whole unit is that the "ringer" bell is very quiet, which means that you can not hear the telephone from any distance (sounds like a demented canary).

This modem connects directly into 240 volts and does not require an extra transformer as many do. It is housed in a very neat metal case. The power only needs to be on when using the modem, as there is no requirement for power when switched to the telephone.

Three toggle switches are mounted on the front, labelled OFF/ON, ANS/ORIG and VOICE/DATA.

Through the generosity of the manufacturers, R.F. Computer Communication, SOFTEX was able to test two Shuttle Modems one week end and found them to be excellent, with no data transfer problems being encountered, which is far better than we experience now using other modems and a acoustic coupler.

The unit comes with instruction sheets giving details of the pins used, together with a circuit diagram of the unit.

This unit is a far cry from 2 years ago when I purchased an acoustic coupler (there were no cheap Modems available then) with a full duplex model costing you \$399.00, plus transformer.

As time goes on more uses for modems will become available until you are able to do most of your communicating and business using them.



Even now using the Australian Beginning you can sell or purchase equipment 24 hours per day with-out leaving home. Now is the time to begin using your computer as a communicating device with the outside world. Most large Colleges have modem links for students to do there studies whilst at home.

Through the Australian beginning you can also "Chat" to other users through your keyboard and moniter.

Specifications

Data Rate:	300 Baud per second
Operating Mode:	Full duplex, manual originate and answer RS232 C
Data Interface:	PWR - power on.
Displays:	CD - carrier detect
	RX - data received
	TX - data transmitted
Transmit Level:	-10 dBm maximum
Receive Sensitivity:	better than -40 dBm
Dimensions:	200 x 165 x 75 mm.
Weight:	approx. 2 Kg.
Cost:	\$266.00 from SOFTEX

Summary: An excellent product.

BOOKS FOR YOUR TI-99/4A

TEXAS INSTRUMENTS HOME COMPUTER GAMES PROGRAMS by Len Turner
Two dozen different games programs \$14.95

TEXAS INSTRUMENTS HOME COMPUTER GRAPHICS PROGRAMS by Len Turner
Scores of graphics routines \$14.95

TEXAS INSTRUMENTS TI-99/4A PROGRAMS FOR HOME, SCHOOL & OFFICE by Len Turner \$14.95

101 PROGRAMMING TIPS & TRICKS FOR THE TI-99/4A HOME COMPUTER by Len Turner \$14.95

TEXAS INSTRUMENTS COMPUTER PROGRAM WRITING NOTEBOOK by Len Turner \$7.45
Ideal for the beginner! Reviews Basic vocabulary, graphics & then goes onto programming

TEXAS INSTRUMENTS HOME COMPUTER IDEA BOOK
Includes 50 programs, tips, ideas \$16.95

PROGRAMMERS GUIDE TO CP/M Ed. by Sol Libes
All about CP/M 200 pp. \$24.95

COMPUTERS FOR SEA & SKY by Stephen J. Rogowski
Programs in BASIC for Navigation \$16.95

PROGRAMMERS REFERENCE GUIDE TO THE TI-99/4A by C. Regena
A very powerful guide to the 4A 312 pp \$19.95

COMING SOON: CREATING ARCADE GAMES ON THE 99/4A

THE ANYTHING MACHINE: TI-99/4A
TI GAMES FOR KIDS

Available from: CPM DATA SYSTEMS
184A Barkly Street, FOOTSCRAY. 3011.
Ph.(03) 6876790

BOOK REVIEW

"INTRODUCTION TO ASSEMBLY LANGUAGE FOR THE TI HOME COMPUTER"

By Ralph Molesworth
Edited by Steve Davis

Like most users I was disappointed when I received my Mini Memory Module and Editor/Assembler manual to find out the accompanying documentation assumed that the reader was proficient in writing TMS 9900 Assembly language programs. Further enquiries revealed that there was no step by step "Teach yourself" guide to 9900 Assembler, available either in Australia or overseas at that time.

So, when Steve Davis' book hit Australia's shores, naturally I was anxious to at last embark on the Assembly language road. The following are my impressions of the book, which I recomend to you all.

Purpose:

The purpose of the book is not to make you into an expert assembly language programmer. Rather it aims to give the reader enough background to write simple assembly language programs and to properly utilize the information contained in the Editor/Assembler manual.

As each chapter of the book is referenced to the Editor/Assembler manual it would be wise to purchase a copy if you don't already have one. To my way of thinking the "Introduction to Assembly Language" and the "Editor/Assembler Manual" go together in the same way as the "Beginners Basic" and "Users Reference Guide" compliment each other.

Content:

Perhaps the best way to describe the contents is to simply list them:-

1. Taking the plunge from Basic to Assembly.
 2. Binary and Hexadecimal Arithmetic.
 3. Addressing
 4. Registers.
 5. Coding.
 6. Assembling and Running a Program.
 7. Screen and Character Displays.
 8. Processing Keyboard Input.
 9. File Handling.
 10. Sorting and Handling Arrays.
 11. Mixing Assembly with Basic.
- Character Definition Program.
Bargraph Program.
Parting Words.

A comprehensive list of topics I'm sure you'll agree. The first four chapters cover the basics of assembler/machine code, and why you should learn how to use it. These chapters would be a good introduction to assembler on any machine.

Chapters five to eleven get down to the nitty gritty of teaching you how to program. Each chapter includes comprehensive examples which are carefully documented and explained in detail. Each succeeding chapter builds on the previous one, so that concepts are re-inforced by way of repetition.

Finally, two practical programs are listed in full for you to type in and add to your software library. One of these is written by West Australians, Phil West and Burnie Elsner.

The "Parting words" contain some pearls of wisdom on how to structure, write and debug your assembly language programs. Good house-keeping is essential in all programming languages and these tips all seem to make good sense.

Other Comments:

Most programs in the book are presented in two versions, one for the Editor/Assembler module and the second for the Mini Memory. On the rare occurrence where only one version is listed, for the Editor/Assembler module, guidance is always given on how to convert this to Mini Memory format. Hints are also given for the loading of assembly language programs by either the Editor/Assembler, Mini Memory, or Extended Basic modules.

Likes:

1. There are lots of example programs to

type in and try. All examples are fully documented.

2. The book achieves its aims to lift the ignorant to the level where the readers understanding is sufficient to allow him to write meaningful assembler programs.

3. It is adequately cross-referenced to the Editor/Assembler manual, which helps you become familiar with this important reference book.

Dislikes:

1. The lack of a detailed index is a fault. However I would prefer that the book be released without one, rather than have the books release delayed (we have waited too long already!).

2. I felt that more should have been said about using sprites and sound in assembly language as these topics would be a priority for most computer users. Information on involving sprites from assembler is available from other sources, however, this is no excuse for emitting a detailed description from the book. A chapter or two on "sprites" and "sound" would have greatly enhanced the books value to learners.

3. I found the book slightly confusing in places, but this is probably due to the complexity of the subject matter rather than a fault of the book. Overall I thought the book was clearly written and understandable.

Conclusion:

A well written tutorial, worth every cent. Frustrated Editor/Assembler and Mini Memory owners need suffer no longer.

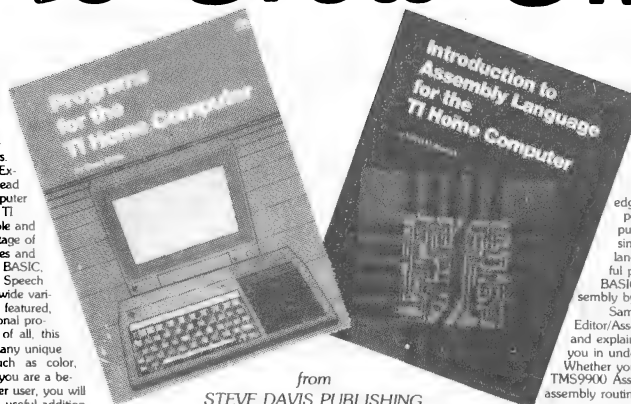
Even with some short comings this book is a "must" for the Adventurous TI Programmer.

L. Preece, Perth.

Two to Grow On . . .

Programs for the TI Home Computer by Steve Davis

At last, here is a book of programs written especially for users of the popular Texas Instruments 99/4 and 99/4A home Computers. Fifty unique programs in TI BASIC and TI Extended BASIC are presented in an easy-to-read format, ready for you to type into your computer and use. Most of the programs are listed in TI BASIC and may be used with just the console and a cassette recorder, while others take advantage of the special capabilities of optional TI modules and peripheral equipment, such as TI Extended BASIC, Mini Memory, Terminal Emulator II, the TI Speech Synthesizer, a printer or the disk system. A wide variety of programs for home applications are featured, including games and entertainment, educational programs, programming aids and more. Best of all, this volume offers programs that highlight the many unique features of the TI Home Computer, such as color, graphics, music, sound or speech. Whether you are a beginner or an experienced TI Home Computer user, you will find this collection to be an entertaining and useful addition to your program library. 8 1/2 x 11, 128 pages, soft cover.



from
STEVE DAVIS PUBLISHING

Introduction to Assembly Language for the TI Home Computer by Ralph Molesworth

This introductory text offers step-by-step instruction in getting started with the powerful TMS9900 Assembly Language for the Texas Instruments Home Computer. It is written to meet the needs of the beginner with a knowledge of TI BASIC who wishes to unlock the vast potential and speed of this popular 16-bit computer. This is an easy-to-read tutorial presenting simple to-follow progressive steps from assembly language basics to the design and coding of useful programs and subroutines. Comparisons to TI BASIC statements help to teach you TMS9900 Assembly by building on your BASIC programming skills. Sample programs that can be entered with the TI Editor/Assembler or Mini-Memory modules are included and explained in detail. Charts, tables and diagrams aid you in understanding and are useful for future reference. Whether you wish to learn to write complete programs in TMS9900 Assembly Language, if you want to incorporate assembly routines into your TI BASIC and Extended BASIC programs, or even if you just wish to acquire a better understanding of how your TI Home Computer works, this book will help you.

\$24.00 Plus \$2.00 P&P.

\$25.00 Plus \$2.00 P & P.

SOFTEX P/L has obtained the first shipment of the book "Introduction to Assembly Language for the TI Home Computer" due Mid February, and Orders will be handled on a strictly first in basis. Send your order with cheque immediately to SOFTEX P/L. Orders w/out money not taken. Expected to be in short supply, already on 2rd. reprint.

Portable Printing Brother EP-44 Personal Electronic Printer

INTRODUCTION.

Since I only had this device on loan for about a day, this was not enough time to review all of the features that this unit had to offer. I will, therefore, confine myself to commenting on the machine with regard to its suitability for use with the 99/4A computer.

GENERAL DESCRIPTION.

The printer measures 330.5 X 262 X 55.2 mm. and is enclosed in a beige coloured plastic case. The unit has a keyboard which is enclosed by a removable plastic cover. The keyboard has a full QWERTY layout, although the keys are somewhat calculator style with only small downward travel. There are about 22 additional special function keys.

Paper insertion is accomplished by raising the hinged lid over the platten which also serves as a rest for single sheets of cut paper of A4 size. There is no manual platten drive knob, paper is inserted by feeding it into the slot at the back of the platten and pressing the paper drive key.

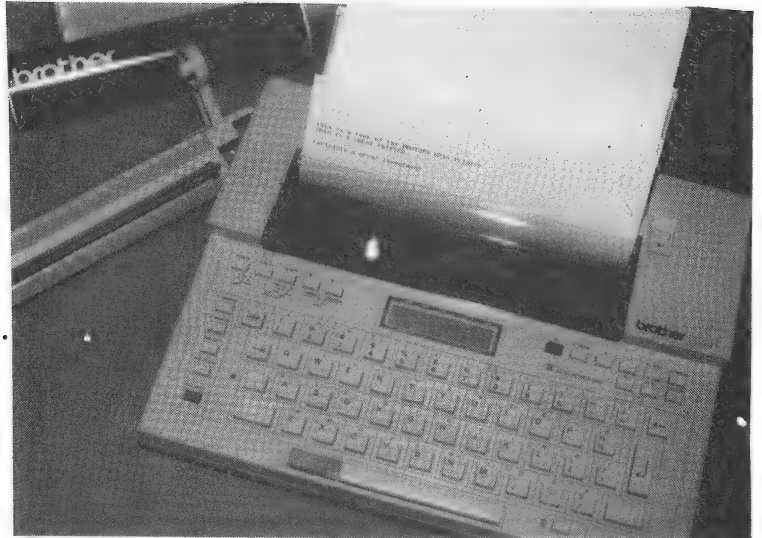
There is a platten release lever to the right of the roller which enables the paper to be straightened. The paper is aligned by means of a column graduated scale, marked on the transparent plastic cover located to the front side of the platten.

The unit is supplied with four R20 manganese batteries although the "D" sized Malory Duracell batteries are quite suitable for use with the printer. An optional mains plug pack power supply is available as an optional extra as is a roll paper holder and rolls of paper.

The printer is fitted with a fifteen character LCD display window and a 4K byte buffer memory. (About three pages of text.) The contents of the buffer is retained even after the power has been switched off. A standard RS232C port is provided on the side of the machine to the right of the keyboard under a removable plastic cover. A comprehensive instruction book is provided together with the appropriate RS232 protocols for connection to the 99/4A computer.

PRINTING METHOD.

The printer employs a thermal print head, which enables printing to be made directly onto heat sensitive paper, some of which is provided with the machine. I think it is important to add that thermal printers have been



characterised, over the years, as being reliable and quiet. They have had disadvantages in that the paper was expensive as well as the print quality being poor. The durability of finished documents also left a lot to be desired.

It would appear that in the Brother EP-44 all the traditional disadvantages have been overcome.

The printer is fitted with a 24 X 18 dot matrix print head which provides a print quality approaching that of a daisy wheel printer. In addition, Brother have developed a heat sensitive single pass carbon ribbon cassette which enables the machine to print directly on to plain paper. Because the ribbon is single pass the intensity of each character remains constant. Each ribbon cassette will print about 40,000 characters. The quality of print onto plain paper is outstanding and is suitable for the production of plates for offset printing.

A solenoid is activated at the start of each line, to bring the print head into contact with the ribbon and the paper and is responsible for the only noise that the printer makes. The machine prints at about 16 characters per second, about the same speed as a daisy wheel printer. Line spacing is selectable from 1 to 1.5 and 2.

THE EP-44 WITH THE 99/4A COMPUTER.

The RS232 protocols to match the printer with the computer are entered into the printer via the keyboard. The entered data appears to be retained by the printer even after it has been switched off. I checked this each time which is a very simple process and is displayed on the printer LCD display. If the printer is to be used as a reliable output device for a computer then I believe it is essential to have

the mains power supply plug pack available for the machine as an optional extra. I did have this accessory and it was used for this survey of the machine.

Using the printer with TI Writer word processing software package, no difficulties were encountered. I only used cut sheet A4 paper since the roll paper holder was not available at the time the machine was tried. The overstrike and underlign commands from TI Writer worked correctly.

The printer has the ability to operate as a terminal through its RS232 interface, and a slide switch position is available for this function. Using the 99/4A terminal emulator module it was found that there were some problems using the printer in this way. It is suspected that the printer just sends a series of ASCII character codes without any communication protocol frills. I have no doubt that a simple basic programme would be all that is needed to handle communications with the printer. There is a single button which commands the printer to send everything it has in its 4 K memory and this facility would be most useful.

GENERAL OBSERVATIONS.

I think it is important to consider the performance of the printer in conjunction with the 99/4A computer purely in comparison with other computer printers.

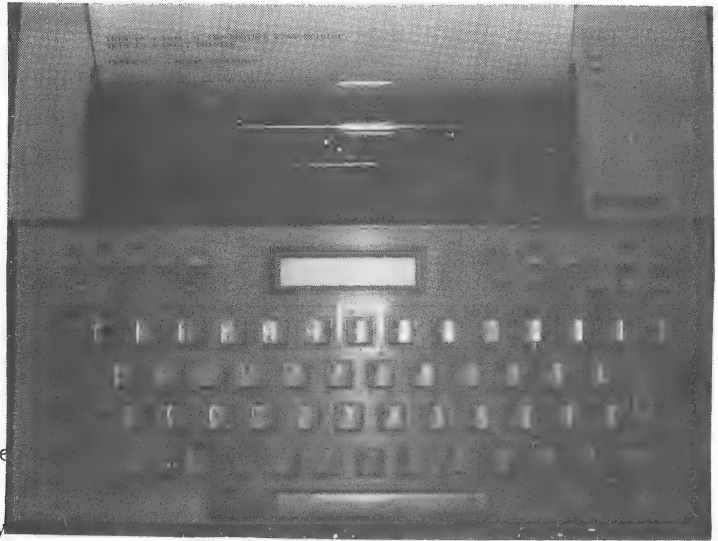
In this respect, considering the cost of the EP-44, I believe that the performance is outstanding. Other dot matrix impact printers cannot match the print quality of the EP-44. The print speed is slow, but so is a daisy wheel printer and this printers quality is nearly as good.

An important factor to consider is the cost of ribbons. The EP-44 ribbons cost between \$3 and \$4 each and provide 40,000 characters. This compares favourably with say an Epson printer ribbon which costs about \$16 and lasts for about 2,000,000 characters, although the intensity of the characters does not remain constant.

I think that the ability to format documents using the built in keyboard of the printer can be regarded as a free bonus.

The use of the Brother EP-44 with the 99/4A is definately recommended where high quality print is required and unit cost is important.

Ian Streete.



SPECIFICATIONS

Dimension:	330.5 x 262 x 55.2 mm.
Weight:	2.5 Kg with batteries.
Number of Keys	44
Paper Capacity	220 mm.
Printing Capacity	203.2 mm.
Printing Speed	16 cps.
Printing Pitch	10 letters per inch (80 chars. per line).
Printing method	Thermal dot matrix
Buffer	24 x 18. Print buffer 160 chars. Key in buffer 140 chars.
Ribbon	One-time heat transfer ribbon (approx. 40,000 chars.).
Display	15 digits LCD.
2 rd. shift key	44 extra international chars.
Calculation func.	4 basic functions and % calculation.
Tabulation	On every column available.
Self repeat key	Tabulation, space, back space, carrier-return, index, reverse index, delete, cursors.
Repeat key	44 alphanumeric + self repeat keys.
Paper	A4 size plain paper or thermal paper.
Power	4 R20 (size D) manganese batteries or optional AC power adapter.
Correction	On display before printing.
Line spacing	1, 1½, 2.
Other	Auto power off function paper empty detection.
Price	\$399.00 recommended ret. \$350.00 SOFTEX.

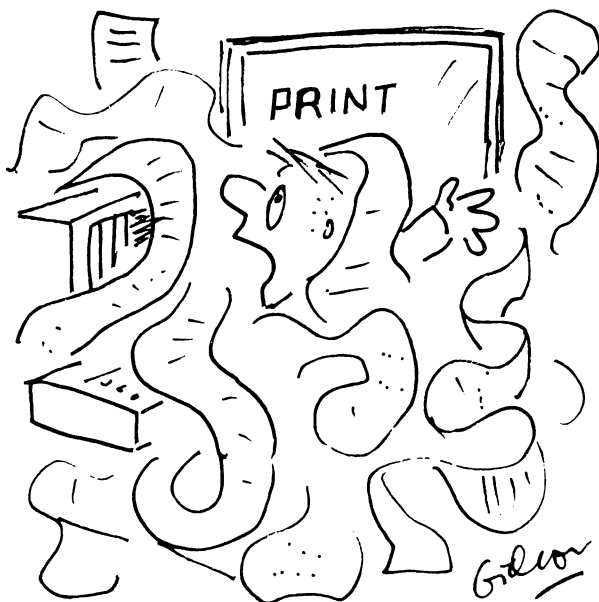
BROTHER HR-5 PRINTER

BROTHER HAS JUST RELEASED A BRAND NEW MODEL PRINTER, USING THE SAME TECHNOLOGY THAT WAS USED IN THE EP-44 PRINTER.

THIS MODEL HAS NO KEYBOARD, BUT IS A PORTABLE BATTERY POWERED 80 COLUMN PRINTER, USING THE THERMAL HEAT TRANSFER PROCESS.

SPECIFICATIONS

Dimensions	303 x 175 x 65 mm.
Weight	1.75 Kg.
Interface	Centronics or RS232C.
Noise	Less than 55 dB.
Character set	USASC II - 96 Block Graphic - 63 International - 17
Print direction	Text - Bidirectional Graph - Unidirectional
Paper Capacity	220 mm A4
Print speed	30 cps.
Print Pitch	10, 12, chars. per in. enlarged, condensed.
Paper feed	Friction feed.
Printing	9 x 9 thermal dot matrix method. 8 x 480 bit image mode.
Ribbon	One-time thermal transfer black carbon approx. 50,000 chars..
Line spacing	1/6" and 1/9"
Paper	Cut sheet A4 plain or thermal paper. Roller paper.
Power	4 R20 (D size) manganese batteries (approx. 70,000 chars.) Optional AC adapter.
Price	\$299.00 rec. retail \$280.00 SOFTEX



TIC-TAC-TOE

By Keith Toghill

What can one say about the old perennial "Noughts & Crosses"? (TIC TAC TOE)

It has been, and undoubtedly shall continue to be a favourite for programmers. Versions abound, even the 3-D variety.

The great problem in BASIC is that program execution is slow - indeed a 3-D version I've seen is so slow as to be unplayable!

Keith Toghill wrote this version for the Melbourne Users Group Software Competition and it was highly commended because of its speed of execution.

How did Keith manage it? We'll leave that to you to figure out from the program listing.

```
100 REM *****
*      *** TIC-TAC-TOE ***
* *** BY K W TOGHILL*** *****
*****
110 REM GAME INTRO
120 CALL CLEAR :: CALL COLOR
(3,16,1):: CALL COLOR(9,1,16
):: CALL COLOR(4,16,1)
130 FOR A=1 TO 4 :: CALL HCH
AR(1+A,13-A,48,8+A*2):: CALL
HCHAR(19+A,8+A,48,18-A*2)::
NEXT A
140 FOR A=6 TO 19
150 CALL HCHAR(A,8,48,18)
160 NEXT A
170 F=25 :: B=6
180 FOR A=3 TO 22 :: B=B+1 :
: CALL HCHAR(A,B,88):: CALL
HCHAR(F-A,B,88):: NEXT A
190 DISPLAY AT(5,9)SIZE(11):
"TIC-TAC-TOE"
200 DISPLAY AT(9,14)SIZE(2):
"BY" :: DISPLAY AT(20,9)SIZE
(11):"K W TOGHILL"
210 FOR A=1 TO 3 :: CALL SOU
ND(200,800,30,400,9,400,6)::
NEXT A
220 CALL SOUND(300,350,6)
230 FOR B=1 TO 10 :: FOR A=2
TO 14 STEP 12 :: CALL COLOR
(8,A,1):: NEXT A :: NEXT B
240 REM
```

```
DISPLAY SCREEN FORMAT &
GIVE INSTRUCTIONS
250 CALL CLEAR :: CALL COLOR
(8,2,1)
260 DISPLAY AT(1,10):"TIC-TA
C-TOE"
```

cont. P. 34

TI-99/4 USERS GROUP MELBOURNE TAPES

Following the number of requests for Group Tapes after the last issue, we include details of the two tapes that have been released since then, Tapes 19 & 20.

These are available to Readers not members of the Melbourne Users Group at the cost of \$7.50 ea., including postage.

Please send your requests and cheques to:
TI-99/4 Users Group Melbourne, 123 Ashburn Grove, Ashburton. 3147.

TI-99/4 USERS GROUP MELBOURNE TAPE 19

SIDE A.

BREAKDOWN.

Mini-Mem.

Author-Mark Eddy of Melbourne.
Game, try and break down the wall until all the bricks are gone.
Uses Keys S=up D=down P=pause.
To Load, select Easy Bug (2), hit any key, then when ? appears type L to load. Cassette instructions follow and on finishing when ? appears again type E7D2C and press ENTER. After this game is in Mini-Memory and all that is required is select 2, hit any key and type in E7D2C.

CONNECT FOUR.

Ord. Basic Only.

Stratagy game for 2 players where the first to get 4 in a row, vertically or diagonally wins. Excellent game, for ages 6 up.

EDDY CLOWN.

Ord. Basic Only.

Simple Arithmetic drills with Graphics for young Children.

WORLD FLAGS.

Both.

Test your skills and memory recognition for Flags of 29 Nations.

WORKSHEET.

Ext. Basic.

Program gives you a "Spreadsheet" to work on figures in a 12 row by 4 column matrix.

MUSIC WORK SHEET.

Both.

Notes are displayed on the screen staff to produce cords. You can play as you you create and change tempo or erase. Notes are represented by letters A to Q.

MINUET IN F.

Both.

Author-Ross Jennins of Melbourne.
Music.

TUNNEL WAR.

Both.

Author-Danny Fredrickson of Melbourne Group.
You are a commander of a Starship armed with missiles.
You have to negotiate you way through tunnels. Keys E & X control the ship, with Q being firing button.

FIRST AID I.

Ext. Basic.

Author-Dr. Jack Goldberg of Melbourne Users Group.
Basic Instruction in First Aid.

FIRST AID II.

Ext. & Speech.

Author-Dr. Jack Goldberg of Melbourne Users Group.
Covers actions required for treatment of Drowning, Snake Bite, Falling Down Stairs.

```

270 DISPLAY AT(3,8):"BEST OF
6 GAMES"
280 CALL CHAR(96,"")
290 FOR A=10 TO 14 STEP 4 ::
CALL HCHAR(A,12,96,11):: CA
LL VCHAR(7,A+5,96,11):: NEXT
A
300 CALL SPRITE(#18,45,2,62,
96)
310 CALL MAGNIFY(2)
320 DISPLAY AT(20,4):"LEVEL
OF PLAY. 1,2 OR 3 ?"
330 CALL KEY(1,K,S):: IF S=0
THEN 330 :: IF K=19 THEN LE
VEL=1 ELSE IF K=7 THEN LEVEL
=2 ELSE IF K=8 THEN LEVEL=3
ELSE 330
340 DISPLAY AT(13,22):"LEVEL
";LEVEL
350 DISPLAY AT(20,4)SIZE(8):
" "
360 DISPLAY AT(20,7):"WHO ST
ARTS FIRST ?"
370 DISPLAY AT(22,5):"IF YOU
,PRESS KEY NO 1."
380 DISPLAY AT(24,5):"IF ME,
PRESS KEY NO 2."
390 CALL KEY(1,K,S)
400 ST=K
410 IF K=7 THEN TURN$="COMP"
ELSE IF K=19 THEN TURN$="YO
URS" ELSE GOTO 390
420 DISPLAY AT(19,4):"USE AR
ROWED KEY (E,S,D & C)": : "
TO MOVE CURSER": : "TH
EN PRESS (A) TO ENTER MOVE"
430 DIM E(16,21)
440 IF TURN$="YOURS" THEN 45
0 ELSE 690
450 REM

PLAYERS MOVE
460 C=8 :: D=13
470 CALL KEY(1,K,S)
480 IF S=0 THEN 470
490 IF K=5 THEN C=C-4 ELSE I
F K=0 THEN C=C+4 ELSE IF K=3
THEN D=D+4 ELSE IF K=2 THEN
D=D-4
500 IF C<8 THEN C=8 ELSE IF
C>16 THEN C=16
510 IF D<13 THEN D=13 ELSE I
F D>21 THEN D=21
520 CALL SPRITE(#18,45,2,C*8
,D*8-10)
530 IF K<>1 THEN 470
540 IF E(C,D)>0 THEN 470
550 IF SP>1 THEN 580
560 DISPLAY AT(19,9):"
YOU ME GAMES

"
570 DISPLAY AT(22,9):YOU;" "
;ME;" ";GAME
580 SP=SP+1 :: CALL SPRITE(#
SP,48,2,C*8-10,D*8-10):: E(C
,D)=48 :: TURN$="COMP"

```

cont. P. 35

AARDVARK. Ext. Basic.
From 99'er Magazine, game, requires Joysticks.

BOA ALLEY. Both.
From 99'er Magazine, game where you are required to guide a snake
through a field with out hitting anything (Keyboard).

ESCAPE FROM MARS. Both.
You are on a rescue mission to save the crew of a downed fighter.

RAIN DROPS KEEP FALLING ON MY HEAD. Ext. Basic.
Music.

AERODYNAMICS I. Both.
Tutorial program on Lift, Drag, and Gravity.

ASTROMANIA. Ext. Basic.
Excellent space shooting game, requires Joysticks.

TI-99/4 USERS GROUP MELBOURNE TAPE 20

Side A Only.

Pirate: Both.
Here is your chance to find buried treasure, by locating
this on a grid. Go to it, make your fortune.

Aerodynamics 2. Both.
Theory of Flight, Lift and Drag.

Texthello. Both.
One of the greatest board games for the TI-99/4A from
99'er.

Artillery. Ord.
You are in charge of a gun battery and have to fire on
your enemy using the elevation control to direct your
shoots. Great graphics and sound.

Bills. Both.
A Cassette based program for recording all your Domestic
Household Bills.

Bubble/Shell Sort Routines Both.
A useful utility routine that can be used in your
programming.

Catching the Computer Car. Both.
Try and catch a computer controlled car using the least
number of turns steering your pursuit vechicle.

Writing and Reading Cassette Data Files. Both.
This program is a demonstration of how to use your
computer for storing and retrieving data. A great way to
learn the Basics.

Cataloger Ext.
One of several auto Disk loaders, good graphics, but
limited to no more than 16 programs.

Color in Fractions Both.
For the younger ones, divide a bar into equal parts and
color in the required No. of squares.

```
590 REM
      SET GAME VARIABLES
600 GV(1)=E(8,13)+E(8,17)+E(
8,21)
610 GV(2)=E(12,13)+E(12,17)+
E(12,21)
620 GV(3)=E(16,13)+E(16,17)+
E(16,21)
630 GV(4)=E(8,13)+E(12,13)+E
(16,13)
640 GV(5)=E(8,17)+E(12,17)+E
(16,17)
650 GV(6)=E(8,21)+E(12,21)+E
(16,21)
660 GV(7)=E(8,13)+E(12,17)+E
(16,21)
670 GV(8)=E(16,13)+E(12,17)+
E(8,21)
680 REM
```

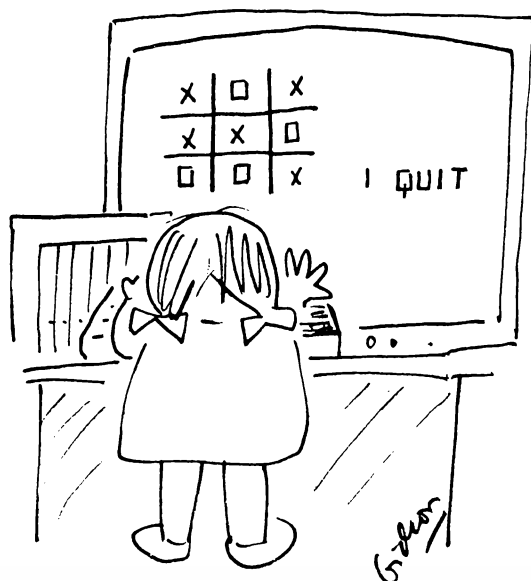
```
      COMPUTERS MOVE
690 CV=144 :: GOSUB 760
700 CV=176 :: GOSUB 760
710 CV=96 :: GOSUB 760
720 CV=88 :: IF (LEVEL=3 AND
TURN$="COMP" AND SP=2)THEN
GOSUB 1340 ELSE GOSUB 760
730 CV=48 :: IF ((LEVEL=2 OR
LEVEL=3)AND TURN$="COMP" AN
D SP=1)THEN GOSUB 1320 ELSE
GOSUB 760
740 CV=0 :: GOSUB 760
750 GOTO 870
760 FOR SEARCH=1 TO 8
770 IF GV(SEARCH)=CV THEN 80
0
780 NEXT SEARCH
790 RETURN
800 IF CV=144 THEN 860
810 IF TURN$="YOURS" THEN 470
820 ON SEARCH GOSUB 1160,1160
,1160,1200,1200,1200,1240,128
0,
830 Z=0 :: CALL SOUND(100,800
,9):: TURN=YOURS :: IF CV=176
THEN 850 ELSE IF SP<> 0 THEN
470
840 REM
```

```
      KEEP SCORE
850 DISPLAY AT(24,1):"
I WIN" :: ME=ME+1 :: GAME
=GAME+1 :: GOTO 880
860 DISPLAY AT(24,1):"
YOU WIN" :: YOU=YOU+1 ::
GAME=GAME+1 :: GOTO 880
870 DISPLAY AT(24,1):"
DRAW" :: GAME=GAME+1
880 DISPLAY AT(22,9):YOU;" ";
ME;" ";GAME
890 REM
```

```
      RESET FOR NEW GAME
900 FOR J=8 TO 16 STEP 4
910 FOR K=13 TO 21 STEP 4
920 E(J,K)=0
930 NEXT K :: NEXT J
940 FOR Q=1 TO 8 :: GV(Q)=0 :
: NEXT Q
```

cont. P. 36

Color Maths	Both.
Watch the face to see if you were correct in your addition or subtraction.	
Rubiks Cube	Ext.
Try this version of the Cube!!, will keep you up for hours.	
Family Tree	Ext.
Now who was your Grandmother's, Mother's, Mother?. Disk based.	
Diet Right	Ext.
Another Diet program, which after checking your Sex, age, Weight, then goes through a series of questions as to your intake of various foods and then gives you your intake of calories, the ideal weight for you and the needed calorie consumption to acheive this.	
Past Tense	Both.
How good were you at English, might make you think. Gives you 3 chances before giving you the correct answer.	
Sixteen Puzzle	Ext.
Based on an old problem of trying to match sides of an object, may not be as easy as first appears.	
Precious Metals Converter	Both.
Based on converting US Gold and Silver coins, Sterling Silver and Metric conversions for value.	
Joystick Diagram	Both.
Shows the use of graphics available as well as how to build a set of Joysticks using the diagrams in this program.	
Program Compressor	Ext.
Program Utility to squash your programs into a manageable size. Prior to using this program must be in merge format Disk Based program.	
Spell and Score	Ord.
Instructions for this program are read first by listing program before "RUNning". Try and make the largest scoring word out of the series of jumbled letters given.	



```

950 FOR DELAY=1 TO 600 :: NEX
T DELAY
960 CALL DELSPRITE(ALL):: SP=
0
970 CALL SPRITE(#18,45,2,64,9
4)
980 CV,SP=0 :: IF GAME=6 OR Y
OU>3 OR ME>3 THEN 1040
990 IF ST=7 THEN ST=8 ELSE ST
=7
1000 IF ST=7 THEN 1020 ELSE 4
60
1010 REM

```

```

COMP' 1'ST MOVE
1020 SP=SP+1 :: CALL SPRITE(#
SP,88,2,54,94):: E(8,13)=88 :
: GOTO 830
1030 REM

```

```

RESET FOR NEW MATCH
1040 IF YOU=ME THEN C$="DRAWN
" ELSE IF YOU>ME THEN C$="YOU
WIN" ELSE C$="I WIN"
1050 GAME,YOU,ME=0
1060 DISPLAY AT(5,13):C$ :: D
ISPLAY AT(24,1):" PRESS ( V )
FOR A NEW MATCH"
1070 CALL KEY(1,K,S)
1080 IF K<>13 THEN 1070
1090 DISPLAY AT(5,13):"
"
1100 DISPLAY AT(22,9):YOU;" "
;ME;" ";GAME
1110 DISPLAY AT(24,1)SIZE(28)
1120 IF K=14 THEN 300
1130 IF ST=7 THEN ST=8 ELSE S
T=7
1140 IF ST=7 THEN 1020 ELSE 4
60
1150 REM

```

```

DISPLAY COMP MOVE
1160 FOR Z=13 TO 20 STEP 4 ::
W=4+SEARCH*4
1170 IF E(W,Z)=0 THEN 1190 EL
SE 1180
1180 NEXT Z
1190 SP=SP+1 :: CALL SPRITE(#
SP,88,2,W*8-10,Z*8-10):: E(W,
Z)=88 :: TURN$="YOURS" :: RET
URN
1200 W=SEARCH*4-3 :: FOR Z=8
TO 15 STEP 4
1210 IF E(Z,W)=0 THEN 1230 EL
SE 1220
1220 NEXT Z
1230 SP=SP+1 :: CALL SPRITE(#
SP,88,2,Z*8-10,W*8-10):: E(Z,
W)=88 :: TURN$="YOURS" :: RET
URN
1240 FOR Z=8 TO 16 STEP 4
1250 W=Z+5 :: IF E(Z,W)=0 THE
N 1310 ELSE 1300
1260 NEXT Z
1270 SP=SP+1 :: CALL SPRITE(#
SP,88,2,Z*8-10,W*8-10):: E(Z,
W)=88 :: TURN$="YOURS" :: RET
URN

```

cont. P. 39

Around the Groups

Throughout Australia active groups of users have banded together to form part of an international link to spread tips, knowledge, programs and the latest news amongst each other. About 2 years ago Shane Anderson from Sydney began the task of trying to find other users of the TI-99/4. Gradually small groups began across Australia, until today there are in excess of 1000 members, without counting the spouses, children, relations and friends who also have some contact with the groups. If you are not a member of a group, then I strongly advise you to join one NOW as it will be up to the groups to find support and developments in the future with T.I. now out of the home computer market.

In Australia all groups have kept together and shared news amongst themselves, so it is not an advantage to belong to one group in preference to another, although logically the nearest one to you should be the one you join. All groups have newsletters, program libraries, numerous overseas contacts etc.. However they each operate in different ways according to size, membership and assets. Following below are details, contacts, costs and services provided by the groups. It is our intention to publish meeting dates and news in further issues to keep you informed of the activities. In addition to the Capital City groups there are regional ones springing up across the country, eg. Newcastle, Mt. Gambier, who are affiliated with the larger groups.

Doug Thomas.

TI-99/4 Users Group Melbourne

Co-Ordinator: Doug Thomas.
Address: 59 Landstrom Quadrant, Kilsyth. 3137.
Telephone: (03) 7258178.
Membership Cost: \$15.00 per 12 month period.
Tape Membership: \$35.00 for 6 C-60 Tapes with 15 to 20 programs on each. Variety of programs on each, collected from local, interstate and overseas sources. Non members can join tape membership only for \$38.00. Programs posted to all subscribers at 2 monthly intervals.
Meetings: Held bi-monthly Saturday afternoons at Victoria College, Burwood Rd., Burwood at 2.00 pm., with a meeting held alternate months on Thursday nights at 7.30 pm..
Next Meeting 23.06.84. A.G.M. and Demonstration of Microsoft Multiplan. Thursday 26.07.84 Basic Tutorial.
Newsletter: Posted bi-monthly, offering news, tips, programs and details of next meetings.
Fees sent to: TI-99/4 Users Group Melbourne, 123 Ashburn Grove, Ashburton. 3147.

TIUP (Perth)

Co-Ordinator: Kim Schlunke.
Address: P.O. Box 246, Mt. Lawley. 6050.
Telephone: (09) 2718642
Membership Costs: \$25.00 pa. or \$10.00 pa. Newsletter only.
Meetings: Held the third Saturday afternoon each month. Free copies of software is available at meetings, on supplying own C-90 tape.
Newsletter: Published bi-monthly giving program listings, tutorials, and in depth reviews.
Fees sent to: TIUP, P.O. Box 246, Mt. Lawley. 6050. W.A.
Very experienced group of programmers who are leading the way with Assembler and other languages.

ATICC (Adelaide)

Co-Ordinator: Fred Cugley.
Address: 26 Suffolk Ave., Brahma Lodge. 5109.
Telephone: (08) 2583409.
Membership Cost: \$12.00 pa.
Meetings: Held monthly at various members homes.
Newsletter: Published bi-monthly and posted.
Program Tapes: Available at \$3.50 ea.. The Group is currently going through a transition stage, with the Co-Ordinator and Secretary looking to stand down from their positions. Due to growth the Group is also out growing homes as a regular meeting place.
Fees sent to: ATICC, 26 Suffolk Ave., Brahma Lodge. 5109. S.A.

TICHUG (Canberra)

Co-Ordinator: Helen Rawlinson
Address: P.O. Box 610, Belconnen. A.C.T. 2616.
Telephone: (062) 415874
Membership Costs: \$18.00 per year.
Meetings: Held bi-monthly.
Tape Software: Provided free currently, with 8 to 10 programs on each.
Newsletter: CHUG.A.LUG, produced bi-monthly.
Fees sent to: TICHUG, P.O. Box 610, Belconnen. A.C.T. 2616.

TI Tas. Users Group (Hobart)

TI Sydney Users' Group (TISHUG)

Co-Ordinator: Peter Varga.
Secretary: John Robinson, P.O. Box 149, Pennant Hills. 2120.
Telephone: (02) 8480956
Membership Cost: \$10.00 initial joining fee, \$20.00 per 12 month period.
Meetings: Held first Saturday each month (2nd. Sat. if 1st. a holiday weekend) at 2.00 pm. at St. Johns Church Hall, Victoria Street, Darlinghurst. Regional meetings held between main meetings on various nights.
Newsletter: Posted monthly, giving news, tips, programs, and future meeting details.
Program Tapes: Sold \$3.00 ea. at meetings, \$4.00 ea. Posted. Each contain about 10 programs, and are set themes, eg. Extended Basic, Ext. Basic Music, Games, Ord. Basic, Ord. Music, Speech. No subscription service, ordered separately.
Fees sent to: TISHUG, P.O. Box 149, Pennant Hills. 2120.
Features: Program Crisis Line.
Planning to set up Bulletin Board for Modems.

Co-Ordinator: Rex Sheperd
Address: 1 Benboyd Crt., Rokeby. 7019.
Telephone: (002) 294009.(Leon Lonergan)
Membership Cost: \$10.00 per year.
Meetings: Meet every third Sunday of the month at the University of Tasmania from 2pm. to 4pm. in Room 373.
Tape Software: \$5.00 a C-60 tape of user written programs.
Newsletter: Bi-monthly.
Fees sent to: T.I. Tas Users Group, 1 Benboyd Crt., Rokeby. 7019. Tas.

TIBUG (Brisbane)

Co-Ordinator: Mr. Greg Lane.
Address: P.O. Box 57, Aspley. 4034.
Telephone: (07) 2634989
Membership Cost: \$22.00 pa. reducing on a sliding scale from September.
Meetings: Held monthly, check for venue.
Newsletter: Bug-Bytes, published monthly and posted.
Features: Programmers Hot Line.
Operate several sub-groups in area.
Home Computer Magazines is sold at meetings along with other odds and ends.
Running an Assembly language workshop.
Fees sent to: TIBUG, P.O. Box 57, Aspley. 4034. QLD..

National TI-99/4 Users Group of Australia

Co-Ordinator: Doug Thomas, 59 Landstrom Quadrant, Kilsyth. 3137. Vic.
Functions as a co-ordinating role between the various groups throughout Australia.
Does not actively organise functions or meetings except between Co-ordinators and other interest parties. Acts as a distribution point for Software and other Data received internationally.

READERS MART

Free advertising up to a maximum of 3 lines available to subscribers only.

Non subscribers and in excess of 3 lines (Max. 42 Chars. ea.) at \$2.00 per line.

* TEXAS INSTRUMENTS 10 inch COLOR MONITOR plus TI-99/4A CONSOLE (NTC), both as new.
\$600.00 O.N.O.; will separate.

Dave Miller, Frankston (03) 7873085

* MICROLINE 80 PRINTER - as new condition.
RS232 printer output. \$350.00.

* PRENTICE STAR ACOUSTIC COUPLER - Ready to connect to any telephone headset.
\$160.00.

* EXTERNAL POWERED DISK DRIVE - SS/DD Drive ready to connect direct to your TI-99/4A Expansion Box. Excellent condition. \$330.00.

CONTACT: Doug Thomas, (03) 7258178.

DATA PAGE

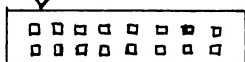
This page has been designed to assist any of you to connect Printers, Modems, etc. to your computer, and will hopefully grow as more users find new devices to attach to their computers.

PRINTER CONNECTIONS

Centronics

PIO Socket

1 3 5 7 9 11 13 15



2 4 6 8 10 12 14 16

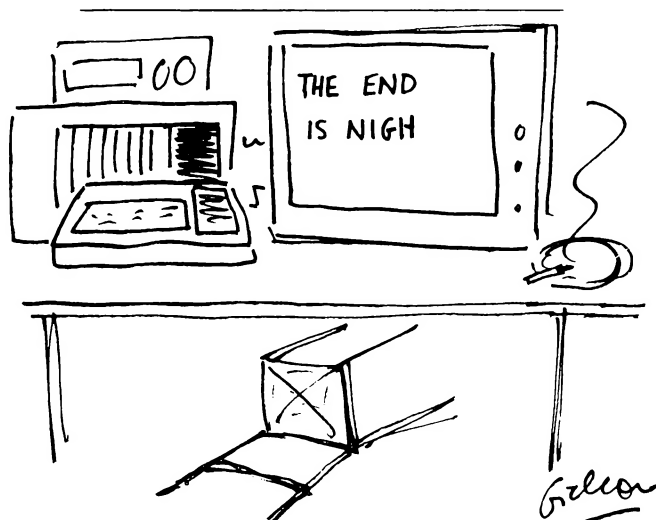
PIO End Printer End

Pin No.	Pin No.
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	11
11	19

Printer Plug: Amphenole (DDK)
57-40360-12

RS-232C Serial Interface

Connect Pin for Pin (25 wires)
but short pin 4 and pin 20 to-
gether at one end.
On some printers pin 11 should
also be connected to pin 20.



MODEMS

Shuttle 300 Data Modem

RS232 End	Modem
1	1
2	3
3	2
5	5
6	4
7	7
8	9
20	20

Dick Smith Modem

RS232 End	Modem
1	1
2	3
3	2
7	7
20	8

Acoustic Coupler

RS232 End	Modem
2	3
3	2
4	4
5	5
7	7
8	8
6	
20	

ADVERTISING RATES

Full Page: \$100.00
Half Page: \$ 60.00
Quarter Page: \$ 40.00

Next Issue Closes 24.06.84

All Art Work etc. will be
charged for on additional
cost basis

cont. from P. 36

```

1280 W=9 :: FOR Z=16 TO 8 STE
P -4
1290 W=W+4 :: IF E(Z,W)=0 THE
N 1310 ELSE 1300
1300 NEXT Z
1310 SP=SP+1 :: CALL SPRITE(#
SP,88,2,Z*8-10,W*8-10):: E(Z,
W)=88 :: TURN$="YOURS" :: RET
URN
1320 SP=SP+1 :: IF E(12,17)=0
THEN E(12,17)=88 :: CALL SPR
ITE(#SP,88,2,84,126):: GOTO 8
30
1330 RETURN
1340 SP=SP+1 :: IF E(16,21)=0
THEN E(16,21)=88 :: CALL SPR
ITE(#SP,88,2,116,158) :: GOTO
830
1350 RETURN
    
```

NEXT ISSUE

- * SPELLING LIST PROGRAM
- * BOOKS FOR THE TI-99/4A COMPUTER
- * REVIEW IMAGIC SOFTWARE
- * USE OF THE TI-WRITER
- * WORK STATIONS
- * IMPORTING
- * USER GROUP PERSONALITIES
- * LQTS, LOTS MORE.

[illegible]

IC

PLANETS	ABREV	GEO	R	DECL.	ELEM.	+/-	TRIP	HOUSES	DIGNI	ABREV	ZODIAC	ZIGNS
SUN/EAR	SU	05AR50		+02 19	FIRE	POS	CARD	CAD 3	EXALT	AR	ARIES	
MOON	MO	05TA26		+08 34	EARTH	NEG	FIX	ANG 4	EXALT	TA	TAURUS	
MERCURY	ME	14AR44		+05 42	FIRE	POS	CARD	CAD 3		GE	GEMINI	
VENUS	VE	11PI43		-08 21	WATER	NEG	MUT	SUC 2	EXALT	CN	CANCER	
MARS	MA	29GE07		+25 31	AIR	POS	MUT	CAD 6		LE	LEO	
JUPITER	JU	17LE30		+16 37	FIRE	POS	FIX	SUC 8		VI	VIRGO	
SATURN	SA	20GE44		+22 03	AIR	POS	MUT	CAD 6		LI	LIBRA	
URANUS	UR	05GE40		+21 11	AIR	POS	MUT	SUC 5		SC	SCORPIO	
NEPTUNE	NE	02LI49		+00 12	AIR	POS	CARD	CAD 9		SA	SAGITARIUS	
PLUTO	PL	06LE29		+24 04	FIRE	POS	FIX	ANG 7		CP	CAPRICORN	
N. NODE	NO	03LE39		+19 21	=====					AQ	AQUARIUS	
ASCEND	AS	28CP08		-20 33	* PART OF FORTUNE 27AQ44					*	PI	PISCES
MIDHEAV	MC	15LI34		-06 08	* EQUAT ASC. (EP) 13CN12					*	NA	NAVARONE
VERTEX	VT	11GE52		+22 13	* SU/MO ANGLE =29AR36					*	INDUSTRIES (C)	